PB-217 688

FEASIBILITY STUDY ON THE APPLICATION OF VARIOUS GROUTING AGENTS, TECHNIQUES AND METHODS TO THE ABATEMENT OF MINE DRAINAGE POLLUTION. PART III. PLANS, SPECIFICATIONS AND SCHEDULES FOR REMEDIAL CONSTRUCTION AT MINE NO. 12-007A, MINE NO. 62-067, MINES NO. 64-014, 64-016, AND 64-017

Halliburton Company
Duncan, Oklahoma

30 November 1967

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PB 217 688

Monongahela River Mine Drainage Remedial Project
Upper West Fork River Sub-basin
West Virginia

FEASIBILITY STUDY ON THE APPLICATION OF VARIOUS GROUTING AGENTS, TECHNIQUES AND METHODS TO THE ABATEMENT OF MINE DRAINAGE POLLUTION

PART III

PLANS, SPECIFICATIONS AND SCHEDULES FOR REMEDIAL CONSTRUCTION

at

Mine No. 12-007 A
Mine No. 62-067
Mines No. 64-014, 64-016 and 64-017

Prepared for the

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

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November 30, 1967

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Monongahela River Mine Drainage Remedial Project

Upper West Fork River Sub-basin

West Virginia

FEASIBILITY STUDY ON THE APPLICATION OF VARIOUS GROUTING AGENTS, TECHNIQUES AND METHODS TO THE ABATEMENT OF MINE DRAINAGE POLLUTION

PART III

PLANS, SPECIFICATIONS AND SCHEDULES
FOR
REMEDIAL CONSTRUCTION
AT
MINE NO. 12-007A
MINE NO. 62-067
MINES NO. 64-014, 64-016 and 64-017

Prepared for the
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

By

HALLIBURTON COMPANY
DUNCAN, OKLAHOMA

November 30, 1967

The research upon which this publication is based was performed pursuant to Contract No. 14-12-31, with the Federal Water Pollution Control Administration, Department of the Interior.

Halliburton COMPANY
DUNCAN, OKLAHOMA 73533

November 30, 1967

Mr. John R. Hyland, Project Officer
Monongahela River Mine Drainage Remedial Project
401 Methodist Building
11th and Chapline Streets
Wheeling, West Virginia 26003

Re: Feasibility Study on the Application of Various Grouting Techniques and Methods to the Abatement of Mine Drainage Pollution

Dear Sir:

In accordance with the terms of the Department of the Interior, Federal Water Pollution Control Administration Contract No. 14-12-31, we submit herewith the Part III Report for the subject feasibility study.

The report presents the plans and specifications, including the schedules and cost estimates, for contracting and construction of pollution abatement projects at Mine No. 12-007A, Mine No. 62-067 and Mine Complex Nos. 64-014, 64-016 and 64-017.

We appreciate the cooperation that has been accorded us, both by your staff and by others of the Federal Water Pollution Control Administration and the U.S. Department of the Interior.

Sincerely yours,

Alan A. Baker

Alan A. Baker
Project Manager

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Plans and Specifications for Remedial
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Plans and Specifications for Remedial
  Construction, Mines No. 64-014, 64-016
  and 64-017

ACKNOWLEDGMENT

In the studies and investigations requisite to the preparation of this Report for Part III, the following consultant was utilized for survey of mine properties and site layout, site mapping, mine map searches and general consultation:

> Mr. Paul W. Hornor, Consulting Mining
> Engineer, Hornor Brothers Engineers of
> Clarksburg, West Virginia.

INTRODUCTION

Part III of the FWPCA Contract 14-12-31 is a continuation of the study covered in Part I and II. The report for Part I summarized the studies and investigations performed in the exploration of drift mines in the Upper West Fork River Sub-basin and includes feasibility studies into the application of materials and material placement techniques toward the abatement of mine drainage pollution. The selection of drift mines for exploration was based on mine inventories made by the Monongahela Enforcement Project in 1965. The exploratory phase of this study involved preliminary surveys of 228 drift mines or mine openings. Following this, 60 mines which evidenced measurable flows during the preliminary study, or which had high mineral content from an analyzation of the drainage samples, were resurveyed.

As a result of the study made under Part I, 20 drift mine sites from this group were selected, and the report for Part II covers the work which was done on these 20 drift mine sites. In addition to the study of these 20 mine sites, considerable work was done on the research, development and testing of remedial methods and techniques applicable to mine drainage pollution. A pilot mine, which was discharging highly polluted water in the vicinity of Clarksburg, West Virginia, was selected for a special field trial and the opening was successfully closed using materials and techniques developed in the feasibility study completed up to that point.

With the concurrence of the Project Officer, three sites were selected from the twenty sites studied in Part II. These sites were as follows:

(1) Mine No. 12-007A, also known as Hacker's Creek Mine No. 1.

(2) Mine No. 62-067, known as the Caputo Mine.

(3) Mines No. 64-014, 64-016 and 64-017, a mine complex known as the Dolan Mine.

Under the terms of the original contract dated November 21, 1966, Part III was to include the preparation of detailed plans, specifications, and schedules for contracting and construction of pollution abatement remedial measures for each of the three selected sites. As a result of the various techniques and materials which were set forth in the previous reports, the work embodied in the plans and specifications of this report include a variety of remedial methods in the plugging or sealing of the mine openings.

The balance of the report includes a general description of the three selected mines, the schedule, cost estimate and recommendations for each mine site, and the plans and specification sections for each mine.

The report has been bound so that each section of plans and specifications can be removed and used separately, if desired.

GENERAL DESCRIPTION

(1) Mine 12-007A is a Redstone drift mine located near the headwaters of Hacker's Creek in Hodgesville,Upshur County, West Virginia. John K. Shaw, Jr., Towson, Maryland is the land owner as well as the coal owner. This is a portion of two mine areas, 12-007A and 12-007B, connected by 3 tunnels between the mines. (Mine 12-007B is not included in this project). The area of the pit mouth has been strip mined exposing 9 entrances or openings into the mine. These openings are on the down-dip or low side of the Redstone coal seam. The preponderance of drainage is flowing from Opening No. 9. Laboratory analyses indicate a high mineralization with a high to fairly high pH. A substantial amount of gob surrounds the mine and is estimated to be in excess of 1,000,000 cubic feet.

(2) Mine 62-067 is an isolated strip and drift mine located approximately 3.3 miles south and west of Clarksburg, West Virginia overlooking U.S. Route 19 in Harrison County. In this large island mine, the Pittsburgh coal seam has been drift mined and, with the exception of 500 feet of periphery on the northeast side, has also been strip mined. Much of the spoil or gob has been regraded. The coal rights belong to Nina A. Snider of Daytona Beach, Florida. The land owners are Nina A. Snider and Mason and Allen. There is no detailed map of this mine available. The drainage from this mine has been monitored and this drainage has exhibited pH values of between 6.0 and 7.2, and the mineral content of the drainage has been high. It is estimated that gob and spoil exists

in the unstripped northeast area in quantities approaching 10,000 cubic yards. Several subsidence cavities are located above the drift openings in the unstripped area of the cover containing voids estimated at 700 cubic yards. Five known openings exist in the mine. Of these 5 openings, 4 are located on the northeast side of the mine in the previously mentioned unstripped area. These openings have never been closed and at present are partially blocked by subsided overburden and sloughage. The fifth opening is located in the extreme south portion of the mine and is covered by a substantial backfill. However, an appreciable flow of high pH value, highly mineralized fluid has been observed from beneath this backfill.

(3) Mines No. 64-014, 64-016 and 64-017: This is an isolated drift mine complex of 60 acres located one mile south of Clarksburg on U.S. Route 19 in Harrison County, West Virginia. This complex is owned by James Dolan but has been operated by the Sewell-Pocahontas Coal Co. Part of the land on which Mine 64-014 is located is part of the property belonging to the William Rector heirs.

The drift openings in this mine complex are located in the Pittsburgh seam. A total of 6 openings are in evidence, all of which are draining to some extent. Drainage from these mines discharges into Davisson Run, a tributary to the West Fork River. The mine site has been stripped around the periphery of the mountain and a number of subsided spots have been noted above the openings. This mine complex is located adjacent to a golf course and some of the drainage from the mine is going on the golf course area.

RECOMMENDATIONS

MONITORING, SAMPLING AND TESTING

It is recommended that the facilities and personnel of the Federal Water Pollution Control Administration be utilized in performing certain tests and analyses. The following work is suggested:

A. Samples will be furnished to FWPCA personnel by the Contractor.

B. Water samples will be analyzed by laboratory personnel of the FWPCA. Data will include the acidity, mineral content, hardness, pH reading and specific conductivity of the water.

C. The amount of rainfall will be continually measured and recorded by FWPCA personnel in the area of the project for purposes of evaluation in connection with other data.

MINE NO. 12-007A

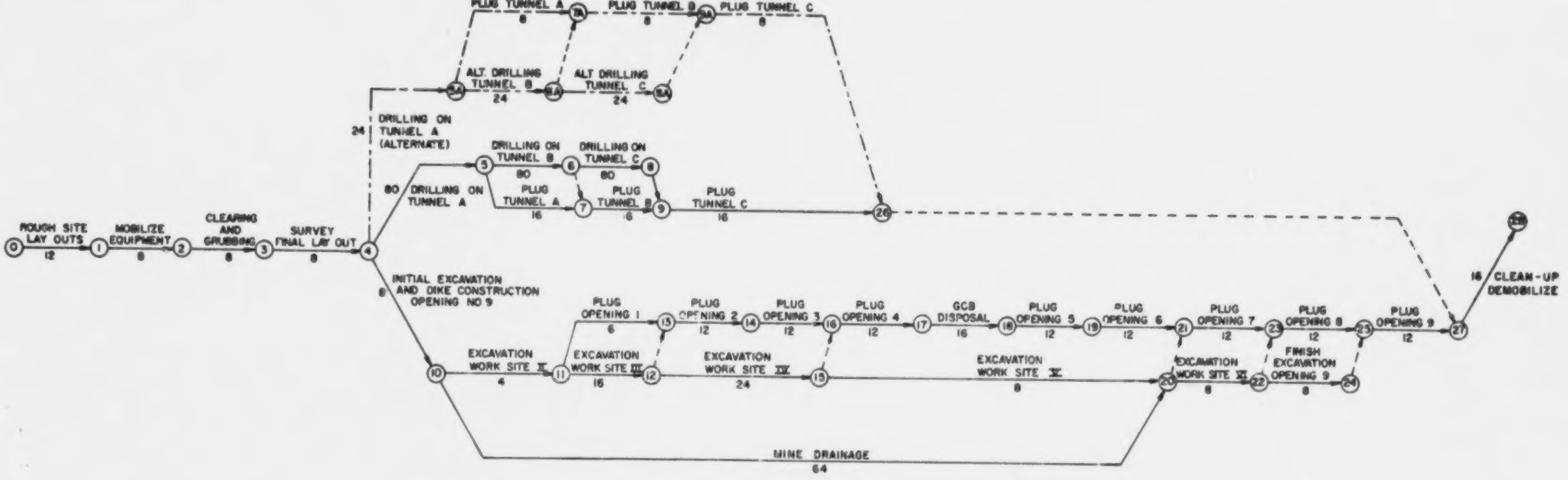
SCHEDULE, COST ESTIMATE AND RECOMMENDATIONS

This part of the report includes the schedule for the work operations, the cost estimate for the project, and recommendations.

The schedule is presented as a CPM Logic Network plan, with the time for each activity included in equipment hours and on the basis of 8-hour days. Therefore, the time for certain operations such as clearing and grubbing or excavation, could be shortened somewhat by the use of additional equipment, if desirable.

The cost estimate included is based on the units in which the Contractor will be bidding.

The CPM Logic Network plan is attached as Exhibit A. The cost estimate is attached as Exhibit B. Discussion and recommendations for alternate procedures are attached as Exhibit C.


ROUGH SITE LAY OUTS
12
MOBILIZE EQUIPMENT
8
CLEARING AND GRUBBING
8
SURVEY FINAL LAY OUT
8
DRILLING ON TUNNEL A (ALTERNATE)
24
ALT. DRILLING TUNNEL B
24
ALT DRILLING TUNNEL C
24
(ALTERNATE) PLUG TUNNEL A
8
(ALTERNATE) PLUG TUNNEL B
8
(ALTERNATE) PLUG TUNNEL C
8
DRILLING ON TUNNEL A
80
DRILLING ON TUNNEL B
80
DRILLING ON TUNNEL C
80
PLUG TUNNEL A
16
PLUG TUNNEL B
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PLUG TUNNEL C
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INITIAL EXCAVATION AND DIKE CONSTRUCTION OPENING NO 9
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EXCAVATION WORK SITE II
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EXCAVATION WORK SITE III
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EXCAVATION WORK SITE IV
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EXCAVATION WORK SITE V
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EXCAVATION WORK SITE VI
8
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PLUG OPENING 1
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PLUG OPENING 2
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PLUG OPENING 3
12
PLUG OPENING 4
12
GCB DISPOSAL
16
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12
PLUG OPENING 6
12
PLUG OPENING 7
12
PLUG OPENING 8
12
PLUG OPENING 9
12
MINE DRAINAGE
64
16 CLEAN-UP DEMOBILIZE
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
7A
9A

CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBER 12-007A
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

COST ESTIMATE

REMEDIAL CONSTRUCTION ON
MINE NO. 12-007A
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT

Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		$ 6,320.00
2.	Excavation	3,260	C.Y.	.80	2,608.00
3.	Preparation of Openings		L.S.*		804.00
4.	Expendable Grout Retainer Slurry	13,440	C.F.	1.90	25,536.00
5.	Hole Drilling-12-1/4" Temporary Cased	1,200	L.F.	8.00	9,600.00
6.	Hole Drilling-12-1/4" Permanent Cased	360	L.F.	10.00	3,600.00
7.	Plugging Fill-Opening 1	10	C.Y.	3.00	30.00
8.	Grouting Slurry-Opening 1	200	C.F.	1.85	370.00
9.	Gob Disposal	400	C.Y.	3.00	1,200.00
10.	Preparation of Opening 9	30	C.Y.	4.00	120.00
11.	Grouting Slurry-Opening 9	200	C.F.	2.85	570.00
12.	Connections	16	Ea.	10.00	160.00
13.	Plugging Tunnel "A"-Sand	60	C.Y.	3.00	180.00
14.	Plugging Tunnel "A"-Concrete	52	C.Y.	30.00	1,560.00
15.	Television System	15	Days	150.00	2,250.00
16.	Bulkheads-Tunnel "B" & "C"	120	C.Y.	1.50	180.00
17.	Gr. Slurry-Tunnel "B" & "C"	3,780	C.F.	1.11	4,200.00
18.	Monitoring		L.S.*		200.00
			TOTAL		$58,488.00
	Tunnel Alternate #1				
1-A	Hole Drilling 6-1/4" Dia.	1,620	L.F.	6.00	9,720.00
2-A	Explosives	2,250	Lb.	2.00	4,500.00
			TOTAL WITH TUNNEL ALTERNATE #1		$53,388.00

* Lump Sum

EXHIBIT B

MINE NO. 12-007A

DISCUSSION AND RECOMMENDATIONS

In the specifications for Mine No. 12-007A, the basic proposal presented in Sections 7 and 8 of the Technical Provisions directs that the tunnel plugging be done by building bulkheads in the tunnel and filling between bulkheads with concrete or cement slurry. Provision is made for inspecting this work using closed circuit television. The alternate method described in Section 9 of the Technical Provisions employs the use of explosives to create a blockage in the tunnel. This method appears to be about 33% less expensive than the other method. It should be noted, however, that no provision is made here for inspecting the results or for filling the surface subsidence created by the explosion. Also, this latter method depends on the force of the explosive charges to pack the material in tightly enough to preclude leakage. Should leakage occur, the tunnel block would require drilling and grouting. These considerations would tend to equalize the cost of the two methods.

Section 13 of the Technical Provisions provides for plugging Opening No. 9. When initial cuts are made, should it be determined that water leakage is actually coming from some distant source through fissures, formation faults or loose, unconsolidated formation, it would be recommended that the opening be grouted to close the sources of water. This grouting could be accomplished as follows:

EXHIBIT C

Drill 2" diameter grout holes at 45° angle to an initial vertical depth of eight (8) feet. Initial drilling will include one hole to be located as directed so that grout material could be placed in the most advantageous location to plug the leakage. Grouting will be performed with quick-setting cement or chemical grout materials, using a grouting packer set in the lower part of the hole. The hole can be extended in depth, after each stage has been grouted to the satisfaction of the Project Officer, to provide for grouting to a maximum vertical depth of approximately seventeen (17) feet, or to a depth of two (2) feet below the base of the coal seam. Additional holes at two (2) foot spacing will be drilled until water leakage has been stopped or until so directed by the Project Officer.

EXHIBIT C

MINE NO. 62-067

SCHEDULE AND COST ESTIMATE

This part of the report includes the schedule for the work operations and the cost estimate for the project.

The schedule is presented as a CPM Logic Network plan, with the time for each activity included in equipment hours and on the basis of 8-hour days. Therefore, the time for certain operations such as clearing and grubbing or excavation, could be shortened somewhat by the use of additional equipment, if desirable.

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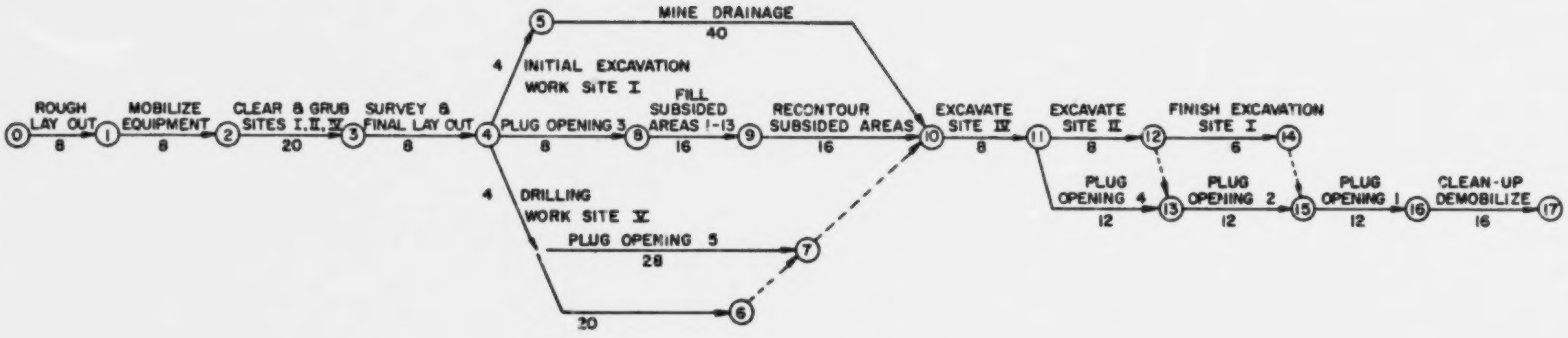
0
ROUGH LAY OUT
8
1
MOBILIZE EQUIPMENT
8
2
CLEAR & GRUB SITES I, II, IV
20
3
SURVEY & FINAL LAY OUT
8
4
5
MINE DRAINAGE
40
4
INITIAL EXCAVATION WORK SITE I
PLUG OPENING 3
8
8
FILL SUBSIDED AREAS 1-13
16
9
RECONTOUR SUBSIDED AREAS
16
4
DRILLING WORK SITE V
PLUG OPENING 5
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20
6
7
10
EXCAVATE SITE IV
8
11
EXCAVATE SITE II
8
12
FINISH EXCAVATION SITE I
6
14
PLUG OPENING 4
12
13
PLUG OPENING 2
12
15
PLUG OPENING 1
12
16
CLEAN-UP DEMOBILIZE
16
17

CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBER 62-067
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

COST ESTIMATE

REMEDIAL CONSTRUCTION ON
MINE NO. 62-067
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT

Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		$ 4,670.00
2.	Excavation	1,600	C.Y.	$ .80	1,280.00
3.	Preparation of Opening		L.S.*		289.00
4.	Expendable Grout Retainer Slurry (Opening 1,2,4)	5,100	C.F.	1.90	9,690.00
5.	Plugging Concrete Pipe (Opening 3)	40	C.F.	5.00	200.00
6.	Hole Drilling-4-3/4"	200	L.F.	4.00	800.00
7.	Drilling Standby	4	Hrs.	20.00	80.00
8.	Mine Opening #5 - Dye	5	Lb.	17.00	85.00
	Mine Opening #5 - Slurry	380	C.F.	1.85	703.00
9.	Filling Subsided Areas - Slurry	12,100	C.F.	.80	9,680.00
10.	Recontouring Subsided Areas		L.S.*		520.00
11.	Monitoring		L.S.*		130.00
			TOTAL		$28,127.00

* Lump Sum

EXHIBIT B

MINES NO. 64-014, 64-016 and 64-017

SCHEDULE AND COST ESTIMATE

This part of the report includes the schedule for the work operations and the cost estimate for the project.

The schedule is presented as a CPM Logic Network plan, with the time for each activity included in equipment hours and on the basis of 8-hour days. Therefore, the time for certain operations such as clearing and grubbing or excavation, could be shortened somewhat by the use of additional equipment, if desirable.

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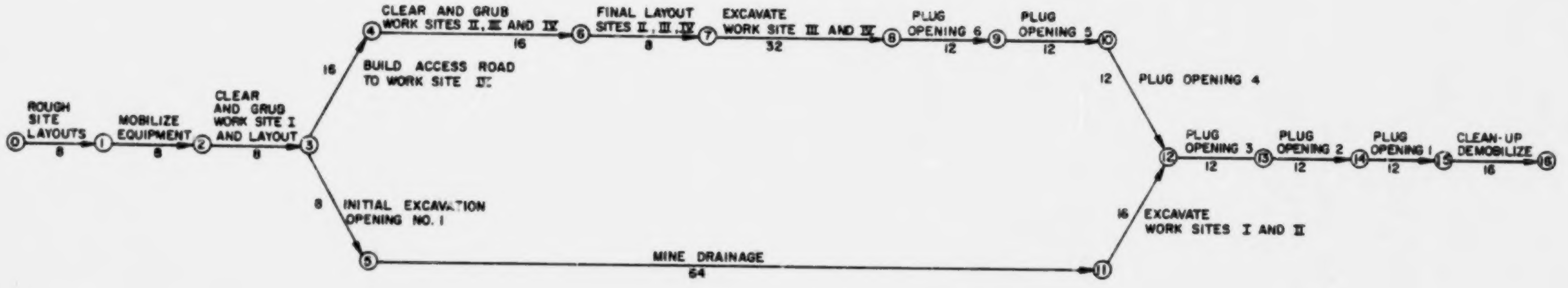
ROUGH SITE LAYOUTS
8
MOBILIZE EQUIPMENT
8
CLEAR AND GRUB WORK SITE I AND LAYOUT
8
16
CLEAR AND GRUB WORK SITES II, III AND IV
16
BUILD ACCESS ROAD TO WORK SITE IV
FINAL LAYOUT SITES II, III, IV
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PLUG OPENING 5
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PLUG OPENING 4
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12
PLUG OPENING 2
12
PLUG OPENING 1
12
CLEAN-UP DEMOBILIZE
16
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CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBERS 64-014, 64-016 AND 64-017
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

COST ESTIMATE

REMEDIAL CONSTRUCTION ON
MINES NO. 64-014, 64-016 & 64-017
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT

Item No	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		$ 4,680.00
2.	Excavating	1,930	C.Y.	$ .80	1,544.00
3.	Preparation of Opening		L.S.*		656.00
4.	Expendable Grout Retainer Plug Slurry	10,080	C.F.	1.90	19,152.00
5.	Monitoring		L.S.*		150.00
			TOTAL		$26,182.00

* Lump Sum

EXHIBIT B

PLANS AND SPECIFICATIONS
FOR
REMEDIAL CONSTRUCTION

MINE NO. 12-007A

Monongahela River Mine Drainage Remedial Project
Upper West Fork River Sub-basin
West Virginia

UNITED STATES DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
633 Indiana Avenue, N.W.
Washington, D.C. 20242

PLANS AND SPECIFICATIONS FOR REMEDIAL CONSTRUCTION ON MINE NO. 12-007A
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA

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Section 9
Tunnel Alternate No. 1
Plugging Tunnels A, B & C TP-9-1

Section 10
Plugging Mine Openings 2, 3, 4, 5, 6, 7 & 8 TP-10-1

Section 11
Plugging Opening No. 1 TP-11-1

Section 12
Disposal of Bituminous Debris (Gob) TP-12-1

Section 13
Plugging Opening No. 9 TP-13-1

Section 14
Monitoring and Sampling TP-14-1

PART I - DESCRIPTION OF WORK

The work included in these specifications covers all construction operations necessary in the performance of site preparation and remedial work for abatement of mine drainage pollution on Mine No. 12-007A.

This is a Redstone drift mine located as part of the Redstone strip 12-007. The mine is located near the headwaters of Hacker's Creek near Hodgesville, Upshur County, West Virginia. Mine No. 12-007A consists of 2 mine areas connected by three tunnels from the area designated as 12-007A to the mine designated 12-007B. The tunnels are a part of the work program, but Mine No. 12-007B is not a part of the project. Mine No. 12-007A has been strip mined exposing openings into the mine. There are nine (9) possible openings into the mine. These range from Opening No. 1 on the south to the northeast to Opening No. 9. The predominant flow from the mine is coming from Opening No. 9, which is on the low end of the mine. Several of the openings are located up on the side of the high wall in a shale formation, indicating that the opening probably has been opened due to a subsidence or roof fall into the mine tunnel below.

Closing the openings along the side of the mine will seal the mine and cause the water level in the mine to rise. For this reason, it is necessary to plug the tunnels between Mines 12-007A and 12-007B to prevent water from Mine No. 12-007A draining into the 12-007B area. All openings are marked on Drawing No. 103-1, Vicinity and Mine Site Map, which also includes pertinent views of the mine workings. Opening No. 9 is the first opening which is to be found as the project area is entered. It is located on the down dip side of the mine at the northern side of the project area. A detail of this work site is shown on Drawing No. 103-2. The next opening, some distance to the south, is Opening No. 8. This opening is not visible but a seepage is evident beneath the fill. A detail of this opening and work site is shown on Drawing No. 103-3. Opening No. 7 is also not visible. This opening is shown in detail on Drawing No. 103-4. Work Site IV is shown on Drawing No. 103-5. This drawing details Openings 4, 5, and 6. Opening 6 is not readily evident due to a sloughing of the side wall which covers the opening except for a small pipe extending from the opening. Opening No. 5 shows a partial opening with concrete block side wall and timbers overhead. This need not be removed if opening can be closed satisfactorily as is. Opening 4 is just south of Opening 5 and a small portion of the opening is visible on the side of the high wall, although it is sloughed considerably in the area of Opening 4. Opening No. 3 and No. 2 are also evident up on the high wall. These are on Work Site III which is shown on Drawing No. 103-6. Opening No. 1 is shown on Drawing No. 103-7. This opening is similar in appearance to several other openings and is on the side of the high wall where the wall has sloughed. Since this is on the high part of the mine, this part should not become a source of water leakage and therefore will simply be plugged off as it now exists.

The tunnel area is shown in detail on Drawing No. 103-8. A proposal to plug these tunnels is included in the specifications as well as an alternate proposal for doing that work. A typical stratigraphic section of the general area is included as part of Drawing No. 103-1 .

The work to be performed will include the following principal features:

a. Site preparation and layout.

b. Initial cut and dike construction at Opening No. 9.

c. Drainage of impounded water from mine.

d. Drilling of holes necessary for use in remedial work on the tunnel.

e. Plugging of Tunnels A, B and C.

f. An alternate method for sealing or plugging the three tunnel sections.

g. Plugging of Mine Opening 1 by means of a cement plug.

h. Plugging of Mine Openings 2, 3, 4, 5, 6, 7 & 8 by means of Expendable Grout Retainers.

i. Disposal of bituminous debris (gob).

j. Plugging of Mine Opening 9 by grouting methods.

The Contractor will include all of the above work when preparing a bid.

STANDARD FORM 20
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

REFERENCE

DATE

NAME AND LOCATION OF PROJECT

DEPARTMENT OR AGENCY
U. S. Department of the Interior

BY (Issuing office)
U.S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N.W.
Washington, D.C. 20242

Sealed bids in duplicate for the work described herein will be received until

at

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A. BID BONDS. Each bidder shall submit with his bid a Bid Bond (Standard Form 24) with good and sufficient surety or sureties acceptable to the Government, or other security as provided in paragraph 4 of Instructions to Bidders (Standard Form 22) in the form of twenty percent (20%) of the bid price or $3,000.00 whichever is lesser. The bid bond penalty may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents.

B. PERFORMANCE AND PAYMENT BONDS. Within 10 days after the prescribed forms are presented to the bidder to whom award is made for signature, a written contract on the form prescribed by the specifications shall be executed and two bonds, each with good and sufficient surety or sureties acceptable to the Government, furnished; namely a performance bond (Standard Form 25 or 27) and a payment bond (Standard Form 25A or 27A). The penal sums of such bonds will be as follows:

I. Performance Bond. The penal sum of the performance bond shall equal 100 percent of the contract price.

II. Payment Bond.

a. The penal sum will be fifty percent (50%) of the contract price.

Any bonds furnished will be furnished by the contractor to the Government prior to commencement of contract performance.

Description of work

The work to be performed includes the following principal features:

Drilling and plugging three tunnels between project site and adjoining mine. Sealing of mine openings in an abandoned coal mine. Approximately 3200 CY of excavation will be required. Special retainers and grouting techniques will be used in sealing the openings.

The above general outline does not limit the work to be less than all that required under the plans and specifications.

U.S. GOVERNMENT PRINTING OFFICE 1960—O-571728

STANDARD FORM 22
JUNE 1964 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. *Explanations to Bidders.* Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. *Conditions Affecting the Work.* Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. *Bidder's Qualifications.* Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. *Bid Guarantee.* Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (*a*) to unsuccessful bidders as soon as practicable after the opening of bids, and (*b*) to the successful bidder upon execution of such further contractual documents and bonds as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. *Preparation of Bids.* (*a*) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(*b*) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(*c*) Unless called for, alternate bids will not be considered.

(*d*) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. *Submission of Bids.* Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. ***Late Bids and Modifications or Withdrawals.*** (*a*) Bids and modifications or withdrawals thereof received at the office designated in the invitation for bids after the exact time set for opening of bids will not be considered unless: (1) They are received before award is made; and either (2) they are sent by registered mail or by certified mail for which an official dated post office stamp (postmark) on the original Receipt for Certified Mail has been obtained, or by telegraph if authorized, and it is determined by the Government that the late receipt was due solely to delay in the mails, or delay by the telegraph company, for which the bidder was not responsible; or (3) if submitted by mail (or by telegram if authorized), it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation: *Provided,* That timely receipt at such installation is established upon examination of an appropriate date or time stamp (if any) of such installation, or of other documentary evidence of receipt (if readily available) within the control of such installation or of the post office serving it. However, a modification which makes the terms of the otherwise successful bid more favorable to the Government will be considered at any time it is received and may thereafter be accepted.

(*b*) Bidders using certified mail are cautioned to obtain a Receipt for Certified Mail showing a legible, dated postmark and to retain such receipt against the chance that it will be required as evidence that a late bid was timely mailed.

(*c*) The time of mailing of late bids submitted by registered or certified mail shall be deemed to be the last minute of the date shown in the postmark on the registered mail receipt or registered mail wrapper or on the Receipt for Certified Mail unless the bidder furnishes evidence from the post office station of mailing which establishes an earlier time. In the case of certified mail, the only acceptable evidence is as follows: (1) where the Receipt for Certified Mail identifies the post office station of mailing, evidence furnished by the bidder which establishes that the business day of that station ended at an earlier time, in which case the time of mailing shall be deemed to be the last minute of the business day of that station; or (2) an entry in ink on the Receipt for Certified Mail showing the time of mailing and the initials of the postal employee receiving the item and making the entry, with appropriate written verification of such entry from the post office station of mailing, in which case the time of mailing shall be the time shown in the entry. If the postmark on the original Receipt for Certified Mail does not show a date, the bid shall not be considered.

8. *Withdrawal of Bids.* Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids.

9. *Public Opening of Bids.* Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. *Award of Contract.* (*a*) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids, is most advantageous to the Government, price and other factors considered.

(*b*) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(*c*) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. *Contract and Bonds.* The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

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READ THE FOLLOWING IN CONJUNCTION WITH INSTRUCTIONS TO BIDDERS, U. S. STANDARD FORM 22:

1. Each bidder shall furnish a list of the plant and equipment available to the bidder and proposed for use on the work.

2. Sets of drawings reduced to half-size, and of specifications will be furnished upon receipt of payment of $5.00 per set. If individual plan sheets are requested they will be furnished at the rates of $0.20 for half-size for each sheet requested, but with a minimum charge of $1.00. The maximum charge shall not exceed the charge for a full set of plans. No refunds of the payment for drawings will be made and the drawings need not be returned to the District Engineer. Additional copies of the specifications alone will be furnished an applicant at the rate of $2.00 per copy. Payments will be made by cash, check or money order. Checks and money orders should be made payable to "Treasurer of the United States".

3. Modifications prior to date set for opening bids. The right is reserved, as the interest of the Government may require, to revise or amend the specifications and/or drawings prior to the date set for opening bids. Such revisions and amendment, if any, will be announced by an amendment or amendments to this Invitation for Bids. Copies of such amendments as may be issued will be furnished to all prospective bidders. If the revisions and amendments are of a nature which require material changes in quantities or prices bid or both, the date set for opening bids may be postposed by such number of days as in the opinion of the Contracting Officer will enable bidders to revise their bids. In such cases, the amendment will include an announcement of the new date for opening bids.

4. The Government further reserves the right to make award of any or all schedules of any bid, unless the bidder qualifies such bid by specific limitation; also to make award to the low bidder whose aggregate bid on any combination of bid schedules is low. For the purpose of this Invitation for Bids, the word item as used in paragraph 10 (c) of Standard Form 22, shall be considered to mean "schedule".

5. Bidders are required to acknowledge receipt of all amendments to this Invitation on the Bid Form (Standard Form 21) in the space provided, or by separate letter or telegram prior to opening of bids. Failure to acknowledge all amendments may cause rejection of the bid.

6. The bidder is advised that Standard Form 23, Construction Contract, together with Standard Form 23A, General Provisions (Construction Contracts), and Standard Form 19A, Labor Standard Provisions applicable to contracts in excess of $2,000, is enclosed for information only.

Attachments:
Std. Form 22, 23 & 23A including Pages
1 thru 14 (Civil) and Std. Form 19A

STANDARD FORM 23
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

CONSTRUCTION CONTRACT

(See instructions on reverse)

CONTRACT NO.

DATE OF CONTRACT

NAME AND ADDRESS OF CONTRACTOR

CHECK APPROPRIATE BOX

☐ Individual
☐ Partnership
☐ Joint Venture
☐ Corporation, incorporated in the State of ____________

DEPARTMENT OR AGENCY

CONTRACT FOR *(Work to be performed)*

PLACE

CONTRACT PRICE *(Express in words and figures)*

ADMINISTRATIVE DATA *(Optional)*

The United States of America (hereinafter called the Government), represented by the Contracting Officer executing this contract, and the individual, partnership, joint venture, or corporation named above (hereinafter called the Contractor), mutually agree to perform this contract in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), and the following designated specifications, schedules, drawings, and conditions:

WORK SHALL BE STARTED

WORK SHALL BE COMPLETED

23-103

Alterations. The following alterations were made in this contract before it was signed by the parties hereto:

In witness whereof, the parties hereto have executed this contract as of the date entered on the first page hereof.

THE UNITED STATES OF AMERICA	CONTRACTOR
By ______________________________	______________________________ *(Name of Contractor)*
______________________________ *(Official title)*	By ______________________________ *(Signature)*
	______________________________ *(Title)*

INSTRUCTIONS

1. The full name and business address of the Contractor must be inserted in the space provided on the face of the form. The Contractor shall sign in the space provided above with his usual signature and typewrite or print his name under the signature.

2. An officer of a corporation, a member of a partnership, or an agent signing for the Contractor shall place his signature and title after the word "By" under the name of the Contractor. A contract executed by an attorney or agent on behalf of the Contractor shall be accompanied by two authenticated copies of his power of attorney or other evidence of his authority to act on behalf of the Contractor.

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STANDARD FORM 23-A
JUNE 1964 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

GENERAL PROVISIONS

(Construction Contract)

1. DEFINITIONS

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative.

2. SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy either in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

3. CHANGES

The Contracting Officer may, at any time, by written order, and without notice to the sureties, make changes in the drawings and/or specifications of this contract if within its general scope. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment under this clause must be asserted in writing within 30 days from the date of receipt by the Contractor of the notification of change unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions; but nothing provided in this clause shall excuse the Contractor from proceeding with the prosecution of the work as changed. Except as otherwise provided in this contract, no charge for any extra work or material will be allowed.

4. CHANGED CONDITIONS

The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (a) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (b) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of this contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given notice as above required; or unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions.

5. TERMINATION FOR DEFAULT—DAMAGES FOR DELAY—TIME EXTENSIONS

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Government may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the Government resulting from his refusal or failure to complete the work within the specified time.

(b) If fixed and agreed liquidated damages are provided in the contract and if the Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If fixed and agreed liquidated damages are provided in the contract and if the Government does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment under the contract), notifies the Contracting Officer in writing of the causes of delay.

The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in Clause 6 of these General Provisions.

(e) If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be

the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

6. Disputes

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged: *Provided, however*, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This Disputes clause does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

7. Payments To Contractor

(a) The Government will pay the contract price as hereinafter provided.

(b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of the contract work. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize any of the remaining progress payments to be made in full. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release, if required, of all claims against the Government arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

8. Assignment of Claims

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating $1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff. (The preceding sentence applies only if this contract is made in time of war or national emergency as defined in said Act; and is with the Department of Defense, the General Services Administration, the Atomic Energy Commission, the National Aeronautics and Space Administration, the Federal Aviation Agency, or any other department or agency of the United States designated by the President pursuant to Clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

9. Material and Workmanship

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process which, in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which he contemplates incorporating in the work. When so directed, samples shall

be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

10. INSPECTION AND ACCEPTANCE

(a) Except as otherwise provided in this contract, inspection and test by the Government of material and workmanship required by this contract shall be made at reasonable times and at the site of the work, unless the Contracting Officer determines that such inspection or test of material which is to be incorporated in the work shall be made at the place of production, manufacture, or shipment of such material. To the extent specified by the Contracting Officer at the time of determining to make off-site inspection or test, such inspection or test shall be conclusive as to whether the material involved conforms to the contract requirements. Such off-site inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with Clause 5 of these General Provisions.

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

11. SUPERINTENDENCE BY CONTRACTOR

The Contractor shall give his personal superintendence to the work or have a competent foreman or superintendent, satisfactory to the Contracting Officer, on the work at all times during progress, with authority to act for him.

12. PERMITS AND RESPONSIBILITIES

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occur as a result of his fault or negligence. He shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

13. CONDITIONS AFFECTING THE WORK

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government. The Government assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Government are expressly stated in the contract.

14. OTHER CONTRACTS

The Government may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Government employees and carefully fit his own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Government employees.

15. PATENT INDEMNITY

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder.

16. ADDITIONAL BOND SECURITY

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

17. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

18. OFFICIALS NOT TO BENEFIT

No member of Congress or resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

19. Buy American

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a–10d) and Executive Order 10582, December 17, 1954 (3 CFR Supp.), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic material listed in the contract.

(b) Domestic construction material. "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) Domestic component. A component shall be considered to have been "mined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

20. Convict Labor

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

21. Equal Opportunity Clause

(The following clause is applicable unless this contract is exempt under the rules and regulations of the President's Committee on Equal Employment Opportunity (41 CFR, Chapter 60). Exemptions include contracts and subcontracts (i) not exceeding $10,000, (ii) not exceeding $100,000 for standard commercial supplies or raw materials, and (iii) under which work is performed outside the United States and no recruitment of workers within the United States is involved.)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under this nondiscrimination clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(e) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked as provided in the said Executive order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. *The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**Unless otherwise provided, the Equal Opportunity Clause is not required to be inserted in subcontracts below the second tier except for subcontracts involving the performance of 'construction work' at the 'site of construction' (as those terms are defined in the Committee's rules and regulations) in which case the clause must be inserted in all such subcontracts. Subcontracts may incorporate by reference the Equal Opportunity Clause.*

22. Utilization of Small Business Concerns

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

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THE FOLLOWING ALTERATIONS HAVE BEEN MADE IN THE GENERAL PROVISIONS STANDARD FORM 23-A, JUNE 1964 EDITION, OF THIS CONTRACT:

1. DEFINITIONS. Entire clause deleted and the following substituted:

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary of the Army; and the term "his duly authorized representative" means the Chief of Engineers, Department of the Army, or an individual or board designated by him.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative. (ECI 7-070 and ASPR 7-602. 1)

5. TERMINATION FOR DEFAULT--DAMAGES FOR DELAY--TIME EXTENSIONS. Subparagraph (d) (1) deleted and the following substituted:

(1) The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers, and (ASPR 8-709 (b))

7. PAYMENTS TO CONTRACTOR. Where the contract amount exceeds $1,000,000 and the time of performance exceeds one year, the following is added to subparagraph (c):

Where the time originally specified for completion of this contract exceeds one year, the Contracting Officer, at any time after 50 percent of the work has been completed, if he finds that satisfactory progress is being made, may reduce the total amount retained from progress payments to an amount not less than 10 percent of the estimated value of the work remaining to be done under the contract or 1-1/2 percent of the total contract amount, whichever is the higher. In computing the total contract amount, for the purposes of the preceding sentence, the contract amount for any separate building, public work, or other division of the contract on which the price is stated separately in the contract and on which payment has been made in full, including retained percentage thereon under this clause shall be excluded. (ASPR 7-602. 7 (b))

• 19. BUY AMERICAN. Clause heading and subparagraph (a) deleted and the following substituted:

19. BUY AMERICAN ACT (OCT. 1966)

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a-10d), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic construction material listed in the "Nondomestic Construction Materials" clause, if any, of this contract. •

21. EQUAL OPPORTUNITY. The clause is amended by deleting references to the President's Committee on Equal Employment Opportunity, Executive Order 10925 of March 6, 1961, as amended, and Section 303 of Executive Order No. 10925 of March 6, 1961, as amended, and substituting therefor the Secretary of Labor, Executive Order No. 11246 of September 24, 1965, and Section 204 of Executive Order 11246 of September 24, 1965, respectively.

The following additional footnote is added to the clause:

"In accordance with regulations of the Secretary of Labor, the rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive Orders superseded by Executive Order 11246, shall, to the extent that they are not inconsistent with Executive Order 11246, remain in full force and effect unless and until revoked or superseded by appropriate authority. References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of Executive Order 11246."

THE FOLLOWING GENERAL PROVISIONS ARE APPENDED HERETO AND MADE A PART OF THIS CONTRACT:

23. CONTRACTOR INSPECTION SYSTEM (Nov 1964)

The Contractor shall (i) maintain an adequate inspection system and perform such inspections as will assure that the work performed under the contract conforms to contract requirements, and (ii) maintain and make available to the Government adequate records of such inspections (ASPR 7-602. 10 (a))

24 GRATUITIES (Mar 1952)

(a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found, after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract; provided, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event this contract is terminated as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor, and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract. (ASPR 7-104. 16)

25 SMALL BUSINESS SUBCONTRACTING PROGRAM (MAINTENANCE, REPAIR AND CONSTRUCTION) (Mar 1964)

(Applicable to contracts in excess of $500,000.)

(a) The Contractor agrees to establish and conduct a small business subcontracting program which will enable small business concerns to be considered fairly as subcontractors, including suppliers, under this contract. In this connection, the Contractor shall designate an individual to (i) maintain liaison with the Government on small business matters, and (ii) administer the Contractor's Small Business Subcontracting Program.

(b) Prior to completion of the contract and as soon as the final information is available, the Contractor shall submit a completed DD Form 1140-1 to the Government addressees prescribed thereon. This subparagraph (b) is not applicable if the Contractor is a small business concern.

(c) The Contractor further agrees (i) to insert the "Utilization of Small Business Concerns" clause in subcontracts which offer substantial subcontracting opportunities, and (ii) to insert in each such subcontract exceeding $500,000 a clause conforming substantially to the language of this clause except that subcontractors shall submit DD Form 1140-1 direct to the Government addressees prescribed on the Form. The Contractor will notify the Contracting Officer of the name and address of each subcontractor that will be required to submit a report on DD Form 1140-1. (ASPR 1-707. 3 (c))

26. FEDERAL, STATE, AND LOCAL TAXES (Aug 1961)

(a) Except as may be otherwise provided in this contract, the contract price includes all applicable Federal, State, and local taxes and duties.

(b) Nevertheless, with respect to any Federal excise tax or duty on the transactions or property covered by this contract, if a statute, court decision, written ruling, or regulation takes effect after the contract date, and--

(1) results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or increase in the rate thereof which would not otherwise have been payable on such transactions or property, the contract price shall be increased by the amount of such tax or duty or rate increase, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price as a contingency reserve or otherwise; or

(2) results in the Contractor not being required to pay or bear the burden of, or in his obtaining a refund or drawback of, any such Federal excise tax or duty which would otherwise have been payable on such transactions or property or which was the basis of an increase in the contract price, the contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Government, as directed by the Contracting Officer. The contract price shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contracting Officer, is required to pay or bear the burden of, or does not obtain a refund or drawback of, any such Federal excise tax or duty.

(c) No adjustment of less than $100 shall be made in the contract price pursuant to paragraph (b) above.

(d) As used in paragraph (b) above, the term "contract date" means the date set for bid opening, or if this is a negotiated contract, the contract date. As to additional supplies or services procured by modification to this contract, the term "contract date" means the date of such modification.

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government upon the request of the Contractor shall, without further liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax; provided that, evidence appropriate to establish exemption from any Federal excise tax or duty which may give rise to either an increase or decrease in the contract price will be furnished only at the discretion of the Government.

(f) The Contractor shall promptly notify the Contracting Officer of matters which will result in either an increase or decrease in the contract price, and shall take action with respect thereto as directed by the Contracting Officer. (ASPR 11-401. 1 (c))

27. RENEGOTIATION (Oct 1959)

(a) To the extent required by law, this contract is subject to the Renegotiation Act of 1951 (50 U.S.C. App. 1211, et seq.), as amended, and to any subsequent act of Congress providing for the renegotiation of contracts. Nothing contained in this clause shall impose any renegotiation obligation with respect to this contract or any subcontract hereunder which is not imposed by an act of Congress heretofore or hereafter enacted. Subject to the foregoing this contract shall be deemed to contain all the provisions required by Section 104 of the Renegotiation Act of 1951,

and by any such other act, without subsequent contract amendment specifically incorporating such provisions.

(b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in section 103g of the Renegotiation Act of 1951, as amended. (ASPR 7-103.13 (a))

28. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (Apr 1966)

(a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:

(i) stop work under the contract on the date and to the extent specified in the Notice of Termination;

(ii) place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(iii) terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(iv) assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(v) settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;

(vi) transfer title and deliver to the Government, in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (A) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government;

(vii) use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (vi) above; provided, however, that the Contractor (A) shall not be required to extend credit to any purchaser, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(viii) complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and

(ix) take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Section VIII, Armed Services Procurement Regulation, as it may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items, or if the items are stored, within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer, upon request of the Contractor made in writing within such one year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree, as provided in paragraph (d), upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any Settlement Review Board approvals required by Section VIII of the Armed

Services Procurement Regulation in effect as of the date of execution of this contract, pay to the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (d):

(i) with respect to all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of —

(A) the cost of such work;

(B) the cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (b) (v) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this contract, which amounts shall be included in the cost on account of which payment is made under (A) above; and

(C) a sum, as profit on (A) above, determined by the Contracting Officer pursuant to 8-303 of the Armed Services Procurement Regulation, in effect as of the date of execution of this contract, to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (C) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(ii) the reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b) (ix); and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this contract.

The total sum to be paid to the Contractor under (i) above shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under (i) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b) (vii).

(f) Any determination of costs under paragraph (c) or (e) hereof shall be governed by the principles for consideration of costs set forth in Section XV, Part 4, of the Armed Services Procurement Regulation, as in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes", from any determination made by the Contracting Officer under paragraphs (c) or (e) above, except that if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (i) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (ii) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (i) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract, (ii) any claim which the Government may have against the Contractor in connection with this contract, and (iii) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government; Provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, micro-photographs, or other authentic reproductions thereof.
(ASPR 8-701 (a) and (c))

29. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (Jan 1965)

The provisions of this clause shall be applicable only if the amount of this contract exceeds $10,000.

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) This clause shall be included in all subcontracts.
(ASPR 9-104)

30. AUTHORIZATION AND CONSENT (Mar 1964)

The Government hereby gives its authorization and consent (without prejudice to any rights of indemnification) for all use and manufacture, in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract), of any invention described in and covered by a patent of the United States (i) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract, or (ii) utilized in the machinery, tools, or methods the use of which necessarily results from compliance by the Contractor or the using subcontractor with (a) specifications or written provisions now or hereafter forming a part of this contract, or (b) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clauses, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted. (ASPR 9-102.1)

31. COMPOSITION OF CONTRACTOR (Jan 1965)

If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder. (ASPR 7-602.32)

32. SITE INVESTIGATION (Jan 1965)

The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from information presented by the drawings and specifications made a part of this contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Government. (ASPR 7-602.33)

33. PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS (Jan 1965)

(a) The Contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by the Contracting Officer.

(b) The Contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to him, and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this contract or the failure to exercise reasonable care in the performance of the work. If the Contractor fails or refuses to repair any such damage promptly, the Contracting Officer may have the necessary work performed and charge the cost thereof to the Contractor. (ASPR 7-602.34)

34. OPERATIONS AND STORAGE AREAS (Jan 1965)

(a) All operations of the Contractor (including storage of materials) upon Government premises shall be confined to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by his operations.

(b) Temporary buildings (storage sheds, shops, offices, etc.) may be erected by the Contractor only with the approval of the Contracting Officer, and shall be built with labor and materials furnished by the Contractor without expense to the Government. Such temporary buildings and utilities shall remain the property of the Contractor and shall be removed by him at his expense upon the completion of the work. With the written consent of the Contracting Officer, such buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways or construct and use such temporary roadways as may be authorized by the Contracting Officer. Where materials are transported in the prosecution of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbings or sidewalks, protection against damage shall be provided by the Contractor and any damaged roads, curbings, or sidewalks shall be repaired by, or at the expense of the Contractor. (ASPR 7-602.35)

35. PROGRESS CHARTS AND REQUIREMENTS FOR OVERTIME WORK (Jan 1965)

(a) The Contractor shall within 5 days or within such time as determined by the Contracting Officer, after date of commencement of work, prepare and submit to the Contracting Officer for approval a practicable schedule, showing the order in which the Contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plant and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress at such intervals as directed by the Contracting Officer, and shall immediately deliver to the Contracting Officer three copies thereof. If the Contractor fails to submit a progress schedule within the time herein prescribed, the Contracting Officer may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedule.

(b) If, in the opinion of the Contracting Officer, the Contractor falls behind the progress schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Contracting Officer may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Government.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this provision shall be grounds for determination by the Contract-

ing Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with the clause of the contract entitled "Termination for Default-Damages for Delay-Time Extensions." (ASPR 7-602.36)

36. SUBCONTRACTORS (Oct 1966)

Within 7 days after the award of any subcontract either by himself or a subcontractor, the Contractor shall deliver to the Contracting Officer a statement setting forth the name and address of the subcontractor and a summary description of the work subcontracted. The Contractor shall at the same time furnish a statement signed by the subcontractor acknowledging the inclusion in his subcontract of the clauses of this contract entitled "Equal Opportunity", "Davis-Bacon Act", "Contract Work Hours Standards Act-Overtime Compensation", "Apprentices", "Payrolls and Basic Records", "Compliance with Copeland Regulations", "Withholding of Funds", "Subcontracts" and "Contract Termination-Debarment". Nothing contained in this contract shall create any contractual relation between the subcontractor and the Government.
(ASPR 7-602.37)

37. USE AND POSSESSION PRIOR TO COMPLETION (Jan 1965)

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Such possession or use shall not be deemed an acceptance of any work not completed in accordance with the contract. While the Government is in such possession, the Contractor, notwithstanding the provisions of the clause of this contract entitled "Permits and Responsibilities," shall be relieved of the responsibility for loss or damage to the work other than that resulting from the Contractor's fault or negligence. If such prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment in the contract price or the time of completion will be made and the contract shall be modified in writing accordingly. (ASPR 7-602.39)

38. CLEANING UP (Jan 1965)

The Contractor shall at all times keep the construction area, including storage areas used by him, free from accumulations of waste material or rubbish and prior to completion of the work remove any rubbish from the premises and all tools, scaffolding, equipment, and materials not the property of the Government. Upon completion of the construction the Contractor shall leave the work and premises in a clean, neat and workmanlike condition satisfactory to the Contracting Officer. (ASPR 7-602.40)

39. ADDITIONAL DEFINITIONS (Jan 1965)

(a) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory" or words of like import shall mean "approved by" or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(b) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provided complete in place", that is "furnished and installed". (ASPR 7-602.41)

40. ACCIDENT PREVENTION (Jan 1965)

(a) In order to provide safety controls for protection to the life and health of employees and other persons, for prevention of damage to property, materials, supplies, and equipment; and for avoidance of work interruptions in the performance of this contract, the Contractor shall comply with all pertinent provisions of Corps of Engineers Manual, EM 385-1-1, dated 13 March 1958, entitled "General Safety Requirements", as amended, and will also take or cause to be taken such additional measures as the Contracting Officer may determine to be reasonably necessary for the purpose.

(b) The Contractor will maintain an accurate record of, and will report to the Contracting Officer in the manner and on the forms prescribed by the Contracting Officer, exposure data and all accidents resulting in death, traumatic injury, occupational disease, and damage to property, materials, supplies and equipment incident to work performed under this contract.

(c) The Contracting Officer will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

(d) Compliance with the provisions of this article by subcontractors will be the responsibility of the Contractor.

(e) Prior to commencement of the work the Contractor will:

(1) submit in writing his proposals for effectuating this provision for accident prevention;

(2) meet in conference with representatives of the Contracting Officer to discuss and develop mutual understandings relative to administration of the over-all safety program. (ASPR 7-602.42 (a) and (b))

41. GOVERNMENT INSPECTORS (Jan 1965)

The work will be conducted under the general direction of the Contracting Officer and is subject to inspection by his appointed inspectors to insure strict compliance with the terms of the contract. No inspector is authorized to change any provision of the specifications without written authorization of the Contracting Officer, nor shall the presence or absence of an inspector relieve the Contractor from any requirements of the contract. (ASPR 7-602.43)

42. PRICE ADJUSTMENT FOR SUSPENSION, DELAYS, OR INTERRUPTION OF WORK (Nov 1961)

(a) The Contracting Officer may order the Contractor in writing to suspend all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the Government.

(b) If, without the fault or negligence of the Contractor, the performance of all or any part of the work is for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Contracting Officer in the administration of the contract, or by his failure to act within the time specified in the contract (or if no time is specified within a reasonable time), an adjustment shall be made by the Contracting Officer for any increase in the cost of performance of the contract (excluding profit) necessarily caused by the unreasonable period of such suspension, delay, or interruption, and the contract shall be modified in writing accordingly. No adjustment shall be made to the extent that performance by the Contractor would have been prevented by other causes even if the work had not been so suspended, delayed, or interrupted. No

claim under this clause shall be allowed (i) for any costs incurred more than twenty days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply where a suspension order has been issued), and (ii) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption but not later than the date of final payment under the contract. Any dispute concerning a question of fact arising under this clause shall be subject to the Disputes clause. (ASPR 7-602.46)

43. EXAMINATION OF RECORDS (Feb 1962)

(The following clause is applicable, if this contract was entered into by means of negotiation, (including Small Business Restricted Advertising) but is not applicable if this contract was entered into by means of formal advertising.)

(a) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this contract, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor, involving transactions related to this contract.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in the clause excludes (i) purchase orders not exceeding $2,500 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.
(ASPR 7-104.15)

44. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS (Jan 1961)

(Applicable to rateable contracts)

The Contractor shall follow the provisions of DMS Reg. 1 and all other applicable regulations and orders of the Business and Defense Services Administration in obtaining controlled materials and other products and materials needed to fill this order. (ASPR 7-104.18)

45. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--PRICE ADJUSTMENTS (Mar 1963)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. The right to price reduction under this clause shall be limited to such price adjustments.

(b) If the Contracting Officer determines that any price, including profit, or fee, negotiated in connection with any price adjustment under this contract was increased by any significant sums because the Contractor or any subcontractor in connection with a subcontract covered by paragraph (d) below, furnished incomplete or inaccurate cost or pricing data or data not current as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data, then such price shall be reduced accordingly and the contract shall be modified in writing to reflect such adjustment.

(c) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(d) The Contractor agrees to insert the substance of paragraphs (a), (b), and (d) of this clause in each subcontract hereunder that exceeds $100,000.
(ASPR 7-104.29 (b))

46. INTEREST (May 1963)

Notwithstanding any other provisions of this contract, unless paid within 30 days all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code) shall bear interest at the rate of six percent per annum from the date due until paid and shall be subject to adjustments as provided by Part 6 of Appendix E of the Armed Services Procurement Regulation, as in effect on the date of this contract. Amounts shall be due upon the earliest one of (i) the date fixed pursuant to this contract, (ii) the date of the first written demand for payment, consistent with this contract, (iii) the date of transmittal by the Government to the Contractor of a proposed supplemental agreement to confirm completed negotiations fixing the amount, or (iv) if this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or in connection with a negotiated pricing agreement not confirmed by contract supplement.
(ASPR, Appendix E-620)

47. AUDIT-PRICE ADJUSTMENTS (Sep 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, unless the price adjustment is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) For purposes of verifying that cost or pricing data submitted in conjunction with a contract change or other modification involving an amount in excess of $100,000 are accurate, complete, and current, the Contracting Officer, the Comptroller General of the United States, or any authorized representatives, shall--until the expiration of three years from the date of final payment under this contract--have the right to examine those books, records, documents and other supporting data which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein, which were available to the Contractor as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data.

(c) The Contractor agrees to insert the substance of this clause in all subcontracts hereunder in excess of $100,000 so as to apply until three years after final payment under the subcontract and only when the change or other modification to the subcontract results from a change or other modification to the Government prime contract.

(The phrase "the Comptroller General of the United States," appearing in paragraph (b) of this provision, is not applicable to negotiated contracts including contracts awarded under a total (Small Business Restricted Advertising) set-aside.) (ASPR 7-104.41 (b))

48. SUBCONTRACTOR COST AND PRICING DATA--PRICE ADJUSTMENTS (May 1963)

(Applicable to all contracts in excess of $100,000)

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000. The requirements of this clause shall be limited

to such price adjustments.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances: (i) prior to award of any cost-reimbursement type, incentive, or price redeterminable subcontract, (ii) prior to the award of any subcontract the price of which is expected to exceed $100,000; (iii) prior to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed $100,000; except in the case of (ii) or (iii) where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete, and current as of the date of execution, which date shall be as close as possible to the date of agreement on the negotiated price of the contract modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds $100,000. (ASPR 7-104.42 (b))

49. DISPUTES CONCERNING LABOR STANDARDS (Jan 1965)

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of the contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor. (ASPR 7-603.26)

50. VALUE ENGINEERING INCENTIVE (Oct 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause applies to cost reduction proposals initiated and developed by the Contractor for changing the drawings, designs, specifications, or other requirements of this contract. This clause does not, however, apply to any such proposal unless it is identified by the Contractor, at the time of its submission to the Contracting Officer, as a proposal submitted pursuant to this clause. The cost reduction proposals contemplated are those that:

(i) would require, in order to be applied to this contract, a change order to this contract; and

(ii) would result in savings to the Government by providing less costly items than those specified herein without impairing any of their essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features.

(b) Cost reduction proposals, as defined herein, shall be processed expeditiously and in the same manner as prescribed for any proposal which would necessitate issuance of a contract change order. As a minimum, the following information shall be submitted by the Contractor with each proposal:

(i) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each;

(ii) an itemization of the requirements of the contract which must be changed if the proposal is adopted and a recommendation as how to make each such change (e.g., suggested revision).

(iii) an estimate of the reduction in performance costs, if any, that will result from adoption of the proposal, taking into account the costs of implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (e) below) and the basis for the estimate;

(iv) a prediction of any effects the proposed change would have on other costs to the Government, such as Government-furnished property costs, costs of related items, and costs of maintenance and operation.

(v) a statement of the time by which a change order adopting the proposal must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract delivery schedule; and

(vi) the dates of any previous submissions of the proposal, the numbers of any Government contracts under which submitted, and the previous actions by the Government, if known.

(c) The Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. The decision of the Contracting Officer as to the acceptance of any such proposal under this contract shall be final and shall not be subject to the "Disputes" clause of this contract. The Contracting Officer may accept, in whole or in part, any cost reduction proposal submitted pursuant to this clause either by issuing a change order to this contract or, if performance has been completed under this contract, by giving written notice of acceptance within a reasonable time thereafter to the Contractor. Unless and until a change order applies a proposal to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. If a proposal is accepted after performance under this contract has been completed, the adjustment required shall be effected by contract modification in accordance with this clause. The adjustment made pursuant to this clause shall be the cumulative total of each adjustment authorized in this clause, rather than a selection of alternatives.

(d) If a cost reduction proposal submitted pursuant to this clause is accepted and applied to this contract, an equitable adjustment in the contract price and in any other affected provisions of this contract shall be made in accordance with this clause and the "Changes" clause of this contract. The equitable adjustment shall be established by determining the effect on the Contractor's cost of performance, taking into account the Contractor's cost of implementing the change (including any amount attributable to subcontracts in accordance with paragraph (e) below). When the cost of performance of this contract is reduced as a result of the change, the contract price shall be reduced by the total estimated decrease in the cost of performance minus fifty per cent (50%) of the difference between the amount of such total estimated decrease and any ascertainable collateral costs to the Government which must reasonably be incurred as a result of application of the cost reduction proposal to the contract. When the cost of implementing the change precludes a reduction in the cost of performing this contract, the equitable adjustment increasing the contract price shall be in accordance with the "Changes" clause rather than under this clause.

(e) The Contractor will use his best efforts to include appropriate value engineering arrangements in any subcontract which, in the judgement of the Contractor, is of such a size and nature as to offer reasonable likelihood of value engineering cost reductions. For the purpose of computing any equitable adjustment in the contract price under paragraph (d) above, the Contractor's cost of implementation of a cost reduction proposal which is accepted under this contract shall be deemed to include any implementation costs of a subcontractor and any value engineering incentive payments to a subcontractor, or cost reduction shares accruing to a subcontractor, which clearly pertain to such proposal and which are incurred, paid or accrued in the performance of a subcontract under this contract.

(f) Cost reduction proposals submitted under the provisions of any other contract also may be submitted for consideration under this contract. Notwithstanding any other provision of this clause, where a cost reduction

proposal has been accepted by the Government, prior to its acceptance under this contract, under any other contract with the Contractor for substantially the same items as called for by this contract, the total amount of the equitable adjustment under this contract shall be limited to that provided for in paragraph (d) of this clause.

(g) The Contractor may restrict the Government's right to use any sheet of a value engineering proposal or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet.

> This data furnished pursuant to the Value Engineering Incentive clause of contract ______________ shall not be disclosed outside the Government, or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering proposal submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained from another source, or is otherwise available, without limitations. If such a proposal is accepted by the Government under said contract after the use of this data in such an evaluation, the Government shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such proposal as accepted, in any manner and for any purpose whatsoever, and have others so do.

In the event of acceptance of a value engineering proposal, the Contractor hereby grants to the Government all rights to use, duplicate or disclose, in whole or part, in any manner and for any purpose whatsoever, and to have or permit others to do so, any data reasonably necessary to fully utilize such proposal.

(h) Contract modifications made as a result of this clause will state that they are made pursuant to it.
(ASPR 1-1707.2 (a))

• 51. RIGHTS IN SHOP DRAWINGS (APR. 1966)

(Applicable to all contracts calling for the delivery of shop drawings)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i. e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.
(ASPR 18-910.1 (b))

52. GOVERNMENT PROPERTY (FIXED PRICE)
(Jun 1965)

(a) Government-Furnished Property. The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay, in accordance with the procedures provided for in the clause of this contract entitled "Changes." Except for Government-furnished property furnished "as is", in the event the Government-furnished property is received by the Contractor in a condition not suitable for the intended use the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (i) return such property at the Government's expense or otherwise dispose of the property, or (ii) effect repairs or modifications. Upon the completion of (i) or (ii) above, the Contracting Officer upon written request of the Contractor shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by the rejection or disposition, or the repair or modification, in accordance with the procedures provided for in the clause of this contract entitled "Changes." The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b) Changes in Government-furnished Property.

(1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1) above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution, or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

(c) Title. Title to all property furnished by the Government shall remain in the Government. In order to define the obligations of the parties under this clause, title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor for the Government pursuant to this contract shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property". Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(d) Property Administration. The Contractor shall comply with the provisions of the "Manual for Control of Government Property in Possession of Contractors" (Appendix B, Armed Services Procurement Regulation) as in

effect on the date of the contract, which Manual is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract.

(e) Use of Government Property. The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) Maintenance and Repair of Government Property. The Contractor shall maintain and administer, in accordance with sound industrial practice, a program for the maintenance, repair, protection, and preservation of Government property, until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs; provided, however, that if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Risk of Loss. Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss of or damage to Government property provided under this contract upon its delivery to him or upon passage of title thereto to the Government as provided in paragraph (c) hereof, except for reasonable wear and tear and except to the extent that such property is consumed in the performance of this contract.

(h) Access. The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Final Accounting and Disposition of Government Property. Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government, and shall prepare for shipment, deliver f. o. b. origin, or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid in such other manner as the Contracting Officer may direct.

(j) Restoration of Contractor's Premises. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) shall not be under any duty or obligation to restore or rehabilitate, or to pay the costs of the restoration or rehabilitation of, the Contractor's plant or any portion thereof which is affected by the abandonment or removal of any Government property.

(k) Communications. All communications issued pursuant to this clause shall be in writing or in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation).

(l) Notwithstanding the provisions of (d) above, the Government will maintain the official control records for Government Property provided pursuant to this clause and the Contractor is not required to maintain property control records for such property in accordance with the requirements of the "Manual for Control of Government Property in Possession of Contractors." (ASPR 13-702 (a) and APP 13-1708 (b))

STANDARD FORM 19–A
APRIL 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FPR (41 CFR) 1-16.401

LABOR STANDARDS PROVISIONS

APPLICABLE TO CONTRACTS IN EXCESS OF $2,000

1. DAVIS-BACON ACT (40 U.S.C. 276a–a(7))

(a) All mechanics and laborers employed or working directly upon the site of the work shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Copeland Regulations (29 CFR, Part 3)), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR, Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

2. CONTRACT WORK HOURS STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327–330)

(a) The Contractor shall not require or permit any laborer or mechanic in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour, exclusive of the Contractor's contribution or cost for fringe benefits and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions of paragraph (a) in the sum of $10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

3. APPRENTICES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or, if no such recognized agency exists in a State, under a program registered with the aforesaid Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall be not greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed.

(b) The Contractor shall furnish written evidence of the registration of his program and apprentices as well as of the ratios allowed and the wage rates required to be paid thereunder for the area of construction, prior to using any apprentices in the contract work.

4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) of the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act."

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) which are incorporated herein by reference.

6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of any Contractor for liquidated damages under the clause hereof entitled "Contract Work Hours Standards Act—Overtime Compensation."

(b) If any Contractor fails to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1965 O - 784-831

SOL-123
(7-64)

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes of labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract by contractors and subcontractors on the work.

The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor,

Charles Donahue
Solicitor of Labor.

GPO : 1964—O-738-498

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD
Chapter 21-5A Series VI
1967

Definitions have been adopted as follows:

(1) Highway Construction:

Highway Construction work is defined as all work ordinarily included in highway construction projects. It includes highway tunnels and bridges, bridge approaches, highway street grading, paving and draining, culverts, manholes, water and other utility pipelines (when included in the contract), sidewalks (when included in the contract), retaining walls, underpasses and overpasses (when included in a highway contract), highway viaducts, clover-leaf structures, curb and sidewalks, fences, and including the erection, dismantling, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with, or serving the aforementioned work.

(2) Heavy Construction:

Heavy Construction and Railroad Construction is defined as construction, substantially in its entirety, and fixed structures, improvement or modification thereof, addition or repair thereto, including any structure or operation which is an incidental part of a contract thereof (not including building or highway construction), including, without limitation, railroad and street railway construction projects, sewers and water mains, retaining walls, viaducts, drainage projects, flood control projects, reclamation projects, airports, athletic fields, reservoirs, water supply projects, water power developments, hydro-electric developments, transmission lines, duct lines, pipelines, locks, dams, dikes, levees, revetments, channels, channel cut-offs, intakes, dredging projects, jetties, breakwaters, docks, harbors, industrial plant sites, excavation and disposal of earth and rock, including the assembly, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with and serving the aforementioned works and services.

(3) Building Construction:

Building Trades rates and conditions shall apply to any building which may be required in the construction, renovation or demolition, of any of the work included where such buildings are customarily constructed under Building Trades Conditions.

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD

Chapter 21-5A Series VI
1967

COVERAGE OF SPECIFIC CLASSES OF WORK IS DEFINED AS FOLLOWS:

A. As an item of construction:

(1) Preliminary Survey Work: Since this work merely affects construction without being a part of it, such work is not generally covered.

(2) Survey Work immediately prior to and during actual Construction: Where surveying is performed immediately prior to and during actual construction, in direct support of construction crews, such surveying is construction work within the meaning of the Prevailing Wage Law.

B. Exploratory Drilling:

(1) Where the drilling was for the purpose of obtaining core borings to be used in engineering studies and planning, the word "works" refers to improvements, such as buildings, canals or roads, rather than to refer to progress or activity. Consequently, mere digging would not appear to be within the term, because it relates to an activity as distinguished from a product or improvement.

(2) Where the soil samples are taken prior to or during construction for the construction contractor, for the purpose of setting foundations, the Commissioner of Labor has held that contracts for such work are considered covered by the Prevailing Wage Law if they may be fairly characterized as being directly related and incidental to, or an integral part of, the actual construction process.

C. Incidental Crafts:

(1) Watchman: Watchmen, where their work is nonmanual in nature, of where they are acting purely in administrative capacities are not "laborers and mechanics" within the contemplation of the Prevailing Wage Law. However, the mere fact that an employee is called a guard, watchman or security policemen does not necessarily mean he is not a laborer. If he actually performs physical or manual work in addition to or in connection with his guarding activities, it may well be that he should properly be classified as a laborer or mechanic for such hours during which he performs laborer's or mechanic's duties. For example, where the duties of a watchman require him to wet down concrete walls and unload materials, the watchman is considered a laborer since performing these acts is a laborer's work.

(2) Flagman: Flagmen who perform no manual labor are not subject to the Prevailing Wage provisions. When flagmen perform in a dual capacity, directing traffic and performing manual jobs, they are covered. Under these circumstances, it will not be necessary to establish an additional classification for flagmen so long as they are classified as laborers and paid the laborer rate. If they perform journeyman's duties, they must be classified and paid the journeyman's rate.

WEST VIRGINIA DEPARTMENT OF LABOR

COUNTY GROUPING FOR LABOR RATES

"A" COUNTIES

BROOKE
CABELL
HANCOCK
HARRISON
JACKSON
KANAWHA
LEWIS
MARION
MARSHALL
MASON
MONONGALIA
OHIO
PLEASANTS
PRESTON
PUTNAM
TYLER
WAYNE
WETZEL
WOOD

"B" COUNTIES

BERKELEY
FAYETTE
LOGAN
MCDOWELL
MERCER
MINGO
RALEIGH
TAYLOR
WYOMING

"C" COUNTIES

BARBOUR
BOONE
BRAXTON
CALHOUN
CLAY
DODDRIDGE
GILMER
GRANT
GREENBRIER
HAMPSHIRE
HARDY
JEFFERSON
LINCOLN
MINERAL
MONROE
MORGAN
NICHOLAS
PENDLETON
POCAHONTAS
RANDOLPH
RITCHIE
ROANE
SUMMERS
TUCKER
UPSHUR
WEBSTER
WIRT

WHD 67

WEST VIRGINIA DEPARTMENT OF LABOR

BUILDING CONSTRUCTION RATES

1967 Minimum Wages in UPSHUR County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Asbestos Workers	4.90	.10	.10	50 deduc		
Boilermakers	4.95	.20	20		.01	
Boilermaker Helpers	4.70	.20	20		.01	
Bricklayers	4.65					
Carpenters	4.33	.10	.15		.02	
Cement Masons	3.85					
Electricians	4.50	.15	1% GPR		1/10 of 1%	
Elevator Constructors	4.70	7.5	12.5			
Elevator Const. Helpers	3.29	7.5	12.5			
Glaziers	3.25					
Ironworkers:						
Structural	5.10	.20	25		.01	
Ornamental	5.10	.20	.25		.01	
Reinforcing	5.10	.20	25		.01	
Laborers:						
General Laborer Foreman	3.90	.10	10			
Blacksmith	3.65	.10	10			
Composite Crew (Stacks)	3.55	.10	.10			
Burner	3.40	.10	.10			
Powderman	3.40	.10	.10			
Laborer Foreman	3.40	.10	10			
Semi-Skilled Laborer:						
Brick Mason Tenders	3.05	.10	.10			
Plasterer Tenders	3.05	.10	.10			
Cement Finisher Tenders	3.05	.10	.10			
Stone Mason Tenders	3.05	.10	.10			
Lathers Tenders	3.05	.10	.10			
Tile Setter Tenders	3.05	.10	.10			
Mortar Mixers	3.05	.10	.10			
Jackhammer Operators	3.05	.10	.10			
Vibrator Operators	3.05	.10	10			
Tamper Operators	3.05	.10	.10			
Pavement Buster Operators	3.05	.10	.10			
Chipping & Peening Hammer Ops	3.05	.10	10			
Air Siphon & Air Pump Ops	3.05	.10	10			
Riprap Finishers	3.05	.10	.10			
Concrete Saw Operators	3.05	.10	.10			
Power Saw Operators	3.05	.10	.10			
Chain Saw Operators	3.05	.10	.10			
Motorized Buggy Operators	3.05	.10	.10			
Pipe Layers	3.05	.10	10			
Pipe Layer Helpers	3.05	.10	10			
Drill Operators	3.05	.10	10			
Drill Operator Helpers	3.05	.10	10			
Sheeter and Shorers	3.05	.10	10			
Post Hole Digger Operators	3.05	.10	.10			
Asphalt Rakers	3.05	.10	.10			
Lance Operators	3.05	.10	10			
Blacksmith Helpers	3.05	.10	10			
Batch House Scale Operators	3.05	10	10			
Workmen Working with Acid	3.05	.10	.10			
Workmen Working with Acid Mortar	3.05	.10	10			
Workmen Working with Acid Brick	3.05	.10	.10			
Workmen Working with Creosote	3.05	.10	10			

Continued on Page Two

WHD 67

WEST VIRGINIA DEPARTMENT OF LABOR

BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in UPSHUR County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Workmen Working with Mastic Asphalt.	3.05	.10	.10			
Nozzelmen for Gunnite or Sandblasting	3.05	.10	.10			
Tool Room Attendants	3.05	.10	.10			
Ride or Walk Roller Tampers	3.05	.10	.10			
Common Laborer:						
Common Laborer	2.90	.10	.10			
Flagman	2.90	.10	.10			
Signal Men	2.90	.10	.10			
Water Boys	2.90	.10	.10			
Demolition Workers	2.90	.10	.10			
Lathers	4.50				.01	
Lead Burners	5.10	.15				
Marble Setters	4.65					
Marble Setter Helpers	3.325					
Millwrights	4.83	.10	.15			
Painters:						
Brush:						
Residential	2.75					
Commercial	3.25					
Industrial	3.75					
Structural Steel & Pipe	3.75					
Spray:						
Industrial	4.50					
Commercial	4.50					
Sandblasters	4.50					
Towers	4.50					
Smokestacks	4.50					
Tanks	4.50					
Bridge:						
Brush	4.00					
Spray	4.50					
Sandblast	4.50					
Flagpoles	4.50					
Swing, Chair & Window Jacks/More Per Hr.	.25					
Dry Wall Taper	3.25					
Sign Painter	3.40					
Sign Painter Helper	2.60					
Piledrivers	4.58	.10	.15		.02	
Plasterers	4.00					
Plumbers	4.30	.10	.15	.10	.02	
Roofers:						
Composition	4.25					
Slate & Tile	4.25					
Sheet Metal Workers	4.40				.01	
Soft Floor Layers	4.33	.10	.15		.02	
Sprinkler Fitters	4.525	.11	.10			
Steam Fitters	4.30	.10	.15	.10	.02	
Stone Masons	4.65					
Terrazzo Workers	4.65					
Terrazzo Worker Helpers	3.325					
Tile Setters	4.65					
Tile Setter Helpers	3.325					

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Continued on Page Three

1967 Minimum Wages in UPSHUR County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Operating Engineers:						
All cranes, shovels, draglines, clamshell, derricks, & similar equipment 4 C/Y capacity or more or having 175 feet or more boom, and tower cranes...............	4.49	.10	.20		.02	
All types shovel, crane and backhoe operator, Material Hoist (2 or 3 drum), Derrick (all types), Mechanic, Grade-All, Wellpoint System, Concrete Mixing Plant Opr., Tug or Towboat Opr., Elevator, and Core Drill Opr..	4.24	.10	.20		.02	
Side Boom Car, High Lift & Fork Lift...........................	4.165	.10	.20		.02	
Trench Excavator & Concrete Pump Opr. (double)..................	4.065	.10	.20		.02	
High Compression Equipment........	4.065	.10	.20		.02	
Standard Locomotive...............	3.965	.10	.20		.02	
Air Tugger & Concrete Mixer (2 bag)...........................	3.915	.10	.20		.02	
Material Hoist (1 drum), Brick Tote Machine, Concrete Pump Opr. (single), A Frame Truck, Ross Carrier, Rubber Tired Scrappers, & Power Grader..................	3.865	.10	.20		.02	
Bull Dozer, Oiler-Stand., Gauge Locomotive & Locomotive Crane, Tractor & Pan Scrapper, Push Cat & Grease Truck Operator.........	3.765	.10	.20		.02	
Wellpoint System Installer........	3.715	.10	.20		.02	
All Tractors......................	3.665	.10	.20		.02	
Fireman...........................	3.465	.10	.20		.02	
Road Roller & Concrete Mixes (1 bag)...........................	3.315	.10	.20		.02	
Barber Greene Loader, Oiler, & Deck Hand.......................	3.265	.10	.20		.02	
Mechanic Helper...................	3.165	.10	.20		.02	
Air Compressor Opr., Electric Welding Machine (gasoline powered)..	2.915	.10	.20		.02	
Air Compressor (600 or over)......	4.165	.10	.20		.02	
Light Plant & Generator...........	2.915	.10	.20		.02	
Conveyor..........................	2.865	.10	.20		.02	
Mechanical Heater & Pump Operator.	2.765	.10	.20		.02	
Truck Drivers:						
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up...............	3.25	.10	17.33 per mo.			
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yds), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen & Mech. Helpers (truck).	3.35	.10	17.33 per mo.			

Continued on Page Four

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in UPSHUR County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yds.), Dump Trucks and Dumpsters (5 yds. to 12 yds.)....	3.55	.10	17.33 per	mo.		
Agitators or Mixer Trucks (over 5 yards).........................	3.65	.10	17.33 per	mo.		
Rubber-Tired Tractors (towing or pushing).........................	3.65	.10	17.33 per	mo.		
Dump Trucks and Other Hauling Equipment (12 yds. to 20 yds.), Mucker Trucker.........................	3.65	.10	17.33 per	mo.		
Dump Trucks and Other Hauling Equipment (20 yds. and over)..........	4.03	.10	17.33 per	mo.		
"A" Frame Operator.................	4.03	.10	17.33 per	mo.		
Mechanics (truck), Foremen and/or Dispatchers.....................	3.65	.10	17.33 per	mo.		

NOTE: Double Hitched Equipment operated by one driver shall pay 50% more than the wages set out above.

APPRENTICE SCHEDULE
PERIOD AND RATE

The apprentice rate is by percentage of the Journeyman's rate unless otherwise indicated.

CRAFT	INTERVAL	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
ASBESTOS WORKERS	Yearly										
BRICKLAYERS	6 Months	50	60	65	70	75	80	85	95		
CARPENTERS	Yearly	68	73	79	83						
CEMENT MASONS	6 Months										
ELECTRICIANS	Yearly	50	60	70	80						
GLAZIERS	Yearly	71	77	85							
IRONWORKERS	1000 Hrs.	60	70	75	80	85	90				
LATHERS	Yearly	53	66	82							
LEAD BURNERS											
MILLWRIGHTS	Yearly										
PAINTERS	Yearly	65	70	77							
PLASTERERS											
PLUMBER & FITTER	6 Months	50	55	60	65	70	75	80	85	90	95
ROOFERS	6 Months	65	70	75	80	85	90				
SHEET METAL	6 Months	45	50	55	60	65	70	75	80		

NOTE: The Wage Determination Decision shall be posted by the contractor at the site of the work in a prominent place where it can be easily seen and read by the workers.

ADDENDUM HH-2B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

BRICKLAYERS

"A" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BROOKE	- 5.10	.10		
CABELL	- 4.85		.35 ded.	20.00/yr.
HANCOCK	- 5.10	.10		
HARRISON	- 4.65			
JACKSON	- 4.70			
KANAWHA	- 4.85			
LEWIS	- 4.65			
MARION	- 4.30			
MARSHALL	- 4.925	.10		
MASON	- 4.85		.35 ded.	20.00/yr.
MONONGALIA	- 4.70			
OHIO	- 4.925	.10		
PLEASANTS	- 4.70			
PRESTON	- 4.70			
PUTNAM	- 4.85			
TYLER	- 4.925	.10		
WAYNE	- 4.85		.35 ded.	20.00/yr.
WETZEL	- 4.925	.10		
WOOD	- 4.70			

"B" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BERKELEY -	4.55			
FAYETTE -	4.85			
LOGAN -	4.85		.35 ded.	
McDOWELL -	4.85		.35 ded.	20.00/yr.
MERCER -	4.00			
MINGO -	4.85		.35 ded.	20.00/yr.
RALEIGH -	4.85			
TAYLOR -	4.65			
WYOMING -	4.00			

"C" COUNTIES

	RATE		RATE		RATE
BARBOUR -	4.50	HAMPSHIRE -	4.20	POCAHONTAS -	4.50
BOONE -	4.85	HARDY -	4.50	RANDOLPH -	4.50
BRAXTON -	4.85	JEFFERSON -	4.55	RITCHIE -	4.70
CALHOUN -	4.70	MINERAL -	4.20	ROANE -	4.70
CLAY -	4.85	MONROE -	4.00	SUMMERS -	4.85
DODDRIDGE -	4.65	MORGAN -	4.55	TUCKER -	4.50
GILMER -	4.65	NICHOLAS -	4.85	UPSHUR -	4.65
GRANT -	4.50	PENDLETON -	4.50	WEBSTER -	4.65
GREENBRIER -	4.85			WIRT -	4.70

	RATE	VACATION	APPRENTICE TRAINING
LINCOLN -	4.85	.35 deducted	$20.00 per year

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
ALL COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications	4.83	.15	.10	.02
CLASS II:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine	4.33	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scraper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor	3.88	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant	3.73	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine	3.53	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Heavy Construction the following	4.08	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer	3.33	.15	.10	.02

LABORERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
"B" and "C" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	3.85	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker...	3.60	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer...	3.40	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	3.21	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	3.06	.10	.10
CLASS VI:	Watchman	2.75	.10	.10

TEAMSTERS

	RATE	H&W
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	3.25	.10
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tireman and Mechanic Helpers (truck)	3.36	.10
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.51	.10
Rubber-Tired Tractors (towing or pushing)....	3.71	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.76	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yards or over)...	3.87	.10
"A" Frame Operator	4.02	.10
Mechanics (truck), Foremen and/or Dispatchers.	4.02	.10

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967

Bricklayers - Stone - See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.28	.10	.15	3.82	.10	.15
Pile Drivers	4.48			4.02		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.48	4.12	4.07
Cement Mason Helpers	First	3.46	3.10	3.05
	Second	3.87	3.51	3.46
	Third	4.63	3.92	3.86

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"B" AND "C" COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications	4.48	.15	.10	.02
CLASSII:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine	3.98	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scrapper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor	3.53	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant	3.38	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine	3.18	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Highway Construction the following	3.73	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer	2.98	.15	.10	.02

LABORERS -

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"B" and "C" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	3.50	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker	3.25	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer	3.05	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	2.86	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	2.71	.10	.10
CLASS VI:	Watchman	2.40	.10	.10

TEAMSTERS

	RATE	H&W	PENSION
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	2.90	.10	
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen and Mechanic Helpers (truck)	3.00	.10	
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.15	.10	
Rubber-Tired Tractors (towing or pushing)	3.56	.10	
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.41	.10	
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yards or over)	3.51	.10	
"A" Frame Operator	3.66	.10	
Mechanics (truck), Foremen and/or Dispatchers.	3.66	.10	

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967

Bricklayers -Stone- See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.18	.10	.15	3.46	.10	.15
Pile Drivers	4.38			3.67		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.38	3.76	3.71
Cement Mason Helpers	First	3.46	2.93	2.92
	Second	3.76	3.13	3.32
	Third	4.17	3.74	3.73

ADDENDUM HH-1B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

IRON WORKERS

"A" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BROOKE -		4.95	.20	.15	.01
CABELL -		5.05	.20	.25	.01
HANCOCK -		4.95	.20	.15	.01
HARRISON -		4.95	.20	.15	.01
JACKSON -		5.10	.20	.25	.01
KANAWHA -		4.75	.20	.25	
LEWIS -		5.10	.20	.25	.01
MARION -		4.95	.20	.15	.01
MARSHALL -		4.95	.20	.15	.01
MASON -		5.10	.20	.25	.01
MONONGALIA -		4.95	.20	.15	.01
OHIO -		4.95	.20	.15	.01
PLEASANTS -		5.10	.20	.25	.01
PRESTON -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
PUTNAM -		4.75	.20	.25	
TYLER -		4.95	.20	.15	.01
WAYNE -		5.05	.20	.25	.01
WETZEL -		4.95	.20	.15	.01
WOOD -		5.10	.20	.25	.01

"B" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BERKELEY-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
FAYETTE -		4.75	.20	.25	
LOGAN -		4.75	.20	.25	
McDOWELL-		4.75	.20	.25	
MERCER -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MINGO -		5.05	.20	.25	.01
RALEIGH -		4.75	.20	.25	
TAYLOR -		4.95	.20	.15	.01
WYOMING -		4.75	.20	.25	

"C" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BARBOUR -		4.95	.20	.15	.01
BOONE -		4.75	.20	.25	
BRAXTON -		4.75	.20	.25	
CALHOUN -		5.10	.20	.25	.01
CLAY -		4.75	.20	.25	
DODDRIDGE -		5.10	.20	.25	.01
GILMER -		5.10	.20	.25	.01
GRANT -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
GREENBRIER-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
HAMPSHIRE-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
HARDY -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
JEFFERSON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
LINCOLN -		4.75	.20	.25	
MINERAL -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	

		RATE	H&W	PENSION	AP.TR.
MONROE -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MORGAN -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
NICHOLAS-		4.75	.20	.25	
PENDLETON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
POCAHONTAS-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
RANDOLPH -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
RITCHIE -		5.10	.20	.25	.01
ROANE -		5.10	.20	.25	.01
SUMMERS -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
TUCKER -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
UPSHUR -		5.10	.20	.25	.01
WEBSTER -		4.75	.20	.25	
WIRT -		5.10	.20	.25	.01

ADDENDUM HH-3B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
"C" COUNTIES
1967

PAINTERS

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
BARBOUR	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	
BOONE	4.625	4.975	4.875	
BRAXTON	4.625	4.975	4.875	
CALHOUN	4.25	4.75	4.75	
CLAY	4.625	4.975	4.875	
DODDRIDGE	4.00	4.50	4.50	
GILMER	4.00	4.50	4.50	
GRANT	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
GREENBRIER	4.625	4.975	4.875	
HAMPSHIRE	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
HARDY	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
JEFFERSON	4.25	4.50	4.50	6.5

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
LINCOLN	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
MINERAL	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
MONROE	4.625	4.975	4.875	
MORGAN	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
NICHOLAS	4.625	4.975	4.875	
PENDLETON	3.70 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	3.95 to 100' 1.00 more each 100'	
POCAHONTAS	4.625	4.975	4.875	
RANDOLPH	4.00	4.50	4.50	
RITCHIE	4.25	4.75	4.75	
ROANE	4.25	4.75	4.75	
SUMMERS	4.625	4.975	4.875	
TUCKER	4.00	4.50	4.50	
UPSHUR	4.00	4.50	4.50	
WEBSTER	4.00	4.50	4.50	
WIRT	4.25	4.75	4.75	

STANDARD FORM 21
DECEMBER 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

BID FORM
(CONSTRUCTION CONTRACT)

REFERENCE

Read the Instructions to Bidders (Standard Form 22)
This form to be submitted in

DATE OF INVITATION

NAME AND LOCATION OF PROJECT

NAME OF BIDDER *(Type or print)*

(Date)

TO: U.S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N.W.
Washington, D.C. 20242

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work for remedial construction on Mine No. 12-007A.

in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), specifications, schedules, drawings, and conditions, for the following amount(s)

Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		
2.	Excavation	3,260	C.Y.		
3.	Preparation of Openings		L.S.*		
4.	Expendable Grout Retainer Slurry	13,400	C.F.		
5.	Hole Drilling-12-1/4" Temp. Csg.	1,200	L.F.		
6.	Hole Drilling-12-1/4" Perm. Csg.	360	L.F.		
7.	Plugging Fill (Opening No. 1)	10	C.Y.		
8.	Grouting Slurry (Opening No. 1)	200	C.F.		
9.	Gob Disposal	400	C.Y.		
10.	Preparation of Opening 9	30	C.Y.		
11.	Grouting Slurry (Opening 9)	200	C.F.		
12.	Connections	16	Ea.		
13.	Plugging Tunnel "A" - Sand	60	C.Y.		
14.	Plugging Tunnel "A" - Concrete	52	C.Y.		
15.	Television System	15	Days		
16.	Bulkheads - Tunnel "B" & "C"	120	C.Y.		
17.	Gr. Slurry - Tunnel "B" & "C"	3,780	C.F.		
18.	Monitoring		L.S.*		
			TOTAL		

* Lump Sum

(Continue on other side)

NOTES: (1) All quantities are estimated except where unit is given as "Lump Sum" or "Each".

(2) All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.

(3) If a bid or modification to a bid based on unit prices is submitted and provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price, including lump sum units, in the bid schedule must be stated or if it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within 30 **calendar days (** **calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within** 10 **calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety.**

The undersigned agrees, if awarded the contract, to commence the work within fifteen (15) **calendar days after the date of receipt of notice to proceed, and to complete the work within** **calendar days after the date of receipt of notice to proceed.**

RECEIPT OF AMENDMENTS: *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

Plant of the character and in the amount required to complete the work within the specified time*(is) *(is not) available and under control of the Bidder.

* (Cross out one).

The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.

ENCLOSED IS BID GUARANTEE, CONSISTING OF	IN THE AMOUNT OF
NAME OF BIDDER (*Type or print*)	FULL NAME OF ALL PARTNERS (*Type or print*)
BUSINESS ADDRESS (*Type or print*) (*Include "ZIP Code"*)	
BY (*Signature in ink. Type or print name under signature*)	
TITLE (*Type or print*)	

DIRECTIONS FOR SUBMITTING BIDS: *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

CAUTION—Bids should not be qualified by exceptions to the bidding conditions.

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Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
Tunnel Alternate #1					
1-A	Hole Drilling-6-1/4" Dia.	1,620	L.F.		
2-A	Explosives	2,250	Lb.		
		TOTAL WITH TUNNEL ALTERNATE #1			

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within calendar days (calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety.

The undersigned agrees, if awarded the contract, to commence the work within calendar days after the date of receipt of notice to proceed, and to complete the work within calendar days after the date of receipt of notice to proceed.

RECEIPT OF AMENDMENTS: *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.

ENCLOSED IS BID GUARANTEE, CONSISTING OF

IN THE AMOUNT OF

NAME OF BIDDER (*Type or print*)

FULL NAME OF ALL PARTNERS (*Type or print*)

BUSINESS ADDRESS (*Type or print*) (*Include "ZIP Code"*)

BY (*Signature in ink. Type or print name under signature*)

TITLE (*Type or print*)

DIRECTIONS FOR SUBMITTING BIDS: *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

CAUTION—Bids should not be qualified by exceptions to the bidding conditions.

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PLANT AND EQUIPMENT SCHEDULE

(To be attached to Standard Form 21)

*Available Plant to be Used

No.	Type	Capacity	Manufacturer	Age & Condition	Location

Note: *Provide separate table for each type of equipment such as excavation, pile driving, concrete handling, material handling, etc. Use separate line for each major item. Use additional pages if necessary.

STANDARD FORM 19-B DECEMBER 1965 EDITION GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.401	**REPRESENTATIONS AND CERTIFICATIONS** **(Construction Contract)** **(For use with SF 19 and 21)**	REFERENCE *(Enter same No.(s) as on SF 19/21)*

NAME AND ADDRESS OF BIDDER *(No., Street, City, State, and ZIP Code)*	DATE OF BID

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. *(Check appropriate boxes.)*

1. SMALL BUSINESS

He ☐ is, ☐ is not, a small business concern. *(For this purpose, a small business concern is a business concern, including its affiliates, which (a) is independently owned and operated, (b) is not dominant in the field of operation in which it is bidding on Government contracts, and (c) had average annual receipts for the preceding 3 fiscal years not exceeding $7,500,000. For additional information see governing regulations of the Small Business Administration.)*

2. CONTINGENT FEE

(a) He ☐ has, ☐ has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and *(b)* he ☐ has, ☐ has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to *(a)* and *(b)* above as requested by the Contracting Officer. *(For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)*

3. TYPE OF ORGANIZATION

He operates as an ☐ individual, ☐ partnership, ☐ joint venture, ☐ corporation, incorporated in State of ______________________________

4. INDEPENDENT PRICE DETERMINATION

(a) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor, and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to *(a)*(1) through *(a)*(3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to *(a)*(1) through *(a)*(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to *(a)*(1) through *(a)*(3) above.

(c) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid will not be considered for award where *(a)*(1), *(a)*(3), or *(b)* above, has been deleted or modified. Where *(a)*(2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS $10,000 IN AMOUNT.

5. EQUAL OPPORTUNITY

He ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he ☐ has, ☐ has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards. *(The above representation need not be submitted in connection with contracts or subcontracts which are exempt from the clause.)*

6. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(a) Is the bidder owned or controlled by a parent company as described below? ☐ Yes ☐ No. *(For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)*

(b) If the answer to *(a)* above, is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY	MAIN OFFICE ADDRESS *(No., Street, City, State, and ZIP Code)*

(c) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) *(Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941)*, or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF ➤	PARENT COMPANY	BIDDER

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

* U.S. GOVERNMENT PRINTING OFFICE : 1968 O - 215-196

PART II - SPECIAL PROVISIONS

SP-1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK: The Contractor will be required to commence work under this contract within fifteen (15) calendar days after the date of receipt by him of notice to proceed, to prosecute said work diligently, and to complete the entire work ready for use in accordance with the following schedule:

Work to be Performed	Completion Time After Notice to Proceed	Liquidated Damages Each Calendar Day
1. Complete site layouts, finish clearing Work Sites II and V and initial excavation of Opening 9.	23 Calendar Days	$60.00
2. Complete excavation for Work Sites II, III and IV, plugging Openings 1, 2 and 3 & drilling on Tunnel A.	37 Calendar Days	$60.00
3. Complete excavation for Work Site V, plug Tunnel A, drilling on Tunnel B, disposal of gob in mine and plugging of Openings 4, 5 and 6.	51 Calendar Days	$60.00
4. Complete plugging of Tunnel B, drilling on Tunnel C, excavation of Work Site VI and plugging of Openings 7 and 8.	65 Calendar Days	$60.00
5. Complete plugging of Tunnel C, excavation and remedial work on Opening No. 9.	68 Calendar Days	$60.00
6. Complete final cleanup and removal of construction facilities.	72 Calendar Days	$30.00

See Section I - Construction General - for Order of work.

SP-2. LIQUIDATED DAMAGES: In case of failure on the part of the Contractor to complete the work within the time fixed in the contract or any extensions thereof, the Contractor shall pay to the Government as liquidated damages, pursuant to paragraph 5, General Provisions, entitled "Termination for Default - Damages for Delay - Time Extensions", the sums set forth in paragraph SP-1 for each calendar day of delay until the work is completed or accepted.

SP-3. CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS:

a. Five sets of Contract Drawings, maps and specifications will be furnished the Contractor without charge except applicable publications incorporated into the Technical Provisions by reference. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the following Contract Drawings and maps, all of which form a part of these specifications and are available in the office of the Project Officer, Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia 26003:

Title	Drawing No.	Date
Vicinity and Mine Site Map	103-1	September, 1967
Work Site VII - Opening No. 9	103-2	September, 1967
Work Site VI - Opening No. 8	103-3	September, 1967
Work Site V - Opening No. 7	103-4	September, 1967
Work Site IV - Openings No. 4,5 & 6	103-5	September, 1967
Work Site III - Openings No. 2 & 3	103-6	September, 1967
Work Site II - Opening No 1	103-7	September, 1967
Work Site I - Mine Tunnels	103-8	September, 1967
Work Site I - Mine Tunnels-Alternate	103-9	September, 1967
Mine Plug-Expendable Grout Retainer	101-6	September, 1967
Dimensional Specifications - Expendable Grout Retainer	101-7	September, 1967
Assembly-Expendable Grout Retainer	101-8	September, 1967

b. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

c. The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Project Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

SP-4. SHOP DRAWINGS: The Contractor shall submit to the Project Officer for approval, one print and one reproducible of all shop drawings as called for under the contract. These drawings shall be complete and detailed. If approved by the Project Officer, each copy of the reproducibles will be identified as having received such approval by being so stamped and dated. The Contractor shall make any corrections required. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or specifications, notice as required under the clause entitled "Changes" will be given to the Project Officer. The prints of all shop drawings will be retained and the reproducibles will be returned. The approval of the

drawings by the Project Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of the responsibility for any error which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. Upon completion of work under this contract, the Contractor shall furnish a complete set of process tracings together with one (1) complete set of black and white prints of all drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted, and shall be of sufficient clarity for microfilm copying. The contract will not be considered complete, and final payment will not be made until satisfactory prints and tracings have been received.

a. Catalog and Descriptive Data: The Contractor shall submit to the Project Officer for approval three (3) sets of catalog data, descriptive literature and specifications for all equipment and material furnished and specifically required under the technical provisions of the contract. If approved, one (1) set of the data will be returned to the Contractor so marked and dated. If the material or equipment proposed is not approved, the Contractor shall make the required corrections or additions and submit three (3) additional sets of the revised data for approval.

SP-5. PHYSICAL DATA: Information and data furnished or referred to below are furnished for the Contractor's information. However, it is expressly understood that the Government will not be responsible for any

interpretation or conclusion drawn therefrom by the Contractor.

a. The Physical Conditions indicated on the drawings and in the specifications are the result of site investigations by surveys, tests and explorations. The data shown represents the actual geologic features observed and logged at the location given on the drawings. While the reports are representative of conditions at their respective locations, local minor variations are anticipated and if encountered, such variations will not be considered as differing "materially" within the purview of General Provision No. 4 of the contract.

b. Weather Conditions at the site of the work are listed on the Weather Chart attached at the end of the Special Provisions Section.

c. Transportation Facilities: It shall be the responsibility of the Contractor to visit the site of the work and examine the transportation facilities as they apply to his own needs. The facilities in the vicinity of the project are as follows:

(1) Existing Roads: The area is served by Federal Highway 119 and State Highway 20. A farm road going west from Hodgesville passes by the project site.

SP-6. VARIATIONS IN ESTIMATED QUANTITIES: Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of such pay item varies more than fifteen (15) percent above or below the estimated quantity stated in this contract, as it may hereafter be modified, an equitable adjustment in the contract unit price shall be made upon demand of either party. If the quantity variation is such as to cause an increase in the time necessary for completion, the Project Officer

shall, upon receipt of a written request for an extension of time within ten (10) days from the beginning of such delay, or within such further period of time which may be granted by the Project Officer prior to the date of final settlement of the contract, ascertain the facts and make such adjustment for extending the completion date as in his judgment the findings justify. If the parties fail to agree upon equitable adjustment in the contract price or time, the dispute shall be determined as provided in the General Provision 6 of this contract entitled "Disputes".

SP-7. LAYOUT OF WORK:

a. The Government will establish the following base lines and bench marks at the site of the work:

(1) Base lines and control points so that alignment for construction operations can be produced by the Contractor.

(2) Bench marks where necessary so the Contractor may extend for construction operations.

b. From the base lines and bench marks established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the Contract Drawings, subject to such modifications as the Project Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

c. The Contractor shall furnish, at his own expense, such stakes,

templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the base lines and bench marks established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Project Officer until authorized to remove them; and if such marks are destroyed, by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the Project Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Project Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

SP-8. QUANTITY SURVEYS:

a. The Government will make original and final surveys and make computations to determine the quantities of work performed or finally in place.

b. The Contractor shall make such surveys and computations as are necessary to determine the quantities of work performed or placed during each period for which a progress payment is to be made. All original field notes, computations and other records taken by the Contractor for the purpose of progress surveys shall be furnished promptly to the Project Officer and shall be used to the extent necessary in determining the proper amount of progress payments due to the Contractor. Unless waived in each specific case, quantity surveys made by the Contractor shall be made under

the direction of the Project Officer.

SP-9. SCHEDULING AND DETERMINATION OF PROGRESS:

a. Independent of progress payments made pursuant to the General Provision entitled "Payments to Contractor", progress schedules prepared under the requirements of General Provision 35 entitled, "Progress Charts and Requirements for Overtime Work", shall provide as scheduled progress only 30 percent of the estimated invoiced cost of materials or equipment delivered to the site but not incorporated in the work as of the time of the scheduled delivery thereof.

b. In determining progress accomplished, the Project Officer will allow as an element of work accomplished (progress toward completion) only 30 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated in the construction up to the time the materials or equipment are actually incorporated in the work.

SP-10. TIME EXTENSIONS: Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended for only those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages pursuant to the new completion schedule.

SP-11. PAYMENT: Payment for the various items listed in the Bidding Schedule shall constitute full compensation for furnishing all plant, labor, equipment, appliances and materials, and for performing all operations required to complete the work in conformity with the drawings and specifications. All costs in connection with work not specifically mentioned in the Bidding Schedule shall be included in the contract prices for the items listed.

SP-12. DAMAGE TO WORK: The responsibility for damage to any part of the permanent work shall be as set forth in General Provision 12 entitled "Permits and Responsibilities". However, if, in the judgment of the Project Officer, any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs as ordered by the Project Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Project Officer, there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to General Provisions 3 of the contract entitled "Changes" will be made as full compensation for the repairs of the part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be

repaired to the satisfaction of the Project Officer at the Contractor's expense, regardless of the cause of such damage.

SP-13. CERTIFICATES OF COMPLIANCE: Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies unless otherwise specified. Each certificate shall be signed by an authorized officer of the manufacturing company and shall contain the name and address of the Contractor, the project name and location and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the test to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

SP-14. MODIFICATION PROPOSALS - PRICE BREAKDOWN: The Contractor shall furnish a price breakdown with his proposal in connection with a contract modification itemized as required by the Project Officer. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract and overhead costs, as well as profit, and shall cover all work involved to accomplish the modification, whether deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a

justification therefor shall also be furnished. The proposal together with the price breakdown and time extension justification shall be furnished by such date as may be specified by the Project Officer.

SP-15. AUTHORIZED REPRESENTATIVE OF THE CONTRACTING OFFICER: The Project Officer shall be designated as an authorized representative of the Contracting Officer in all matters pertaining to direction of the work, and as such is authorized to perform inspection for acceptance and acceptance of materials and services to be provided by the Contractor.

SP-16. SPECIAL SAFETY REQUIREMENTS: The following requirements are supplementary to General Provision 40, Accident Prevention, and to the safety recommendations included in the Corps of Engineers "General Safety Requirements", manual EM 385-1-1, which shall be considered minimum requirements in the administration of this contract. The Contractor, when directed to do so, shall collaborate with the Project Officer and prepare an outline of a plan indicating what specific measures he will take to combat specific hazards anticipated on major phases of construction.

a. Fire Protection:

(1) Temporary heating devices which are of the open-flame type, with the exposed fuel below the flame, and using such fuels as coke, oil or wood are strictly forbidden. Temporary heating devices shall not be left unattended while being operated at night or on non-work days or shifts.

(2) All tarpaulins used for enclosures around structures and work areas shall be flameproofed.

b. Grounding of Electrical Equipment: All electrical construction equipment, including portable hand tools, cable and apparatus, shall be grounded by a separate grounding conductor other than the service cords or by a multiple cord containing a separate ground conductor, all in accordance with the requirements of the latest edition of the National Electrical Code.

c. Hauling Equipment: All hauling equipment (except rubber-tired and crawler-type tractor and scraper units) shall be equipped with the manufacturer's standard cabs or cabs approved by the Project Officer, provided that cabs have a steel frame with doors, safety glass windows, and windshield wipers. Water trucks, grease trucks and other similar equipment are considered hauling units. All cabs shall be maintained in first-class condition. Tractors and scrapers, as excepted above, when loaded from above, shall be provided with adequate overhead protection.

d. Hard Hats: The Contractor shall furnish and enforce the use of protective headgear (hard hats) for all persons working on or visiting work performed under this contract. Hard hats shall be worn from the start of the project until completion unless otherwise approved by the Project Officer.

e. Boom Stops: On all machines where boom stops are required, they shall be of the telescopic shock-absorbing type.

f. Clearing Equipment: Bulldozers and other similar equipment shall have suitable shields or guards attached which will protect operators from falling trees or falling or flying limbs, broken cables and similar hazards. Minimum standards for shields and guards on clearing equipment will be those set forth in attached Plate 3, Tractor Canopies.

g. Carbon Tetrachloride: The use of carbon tetrachloride for cleaning purposes or as a fire extinguishing agent is prohibited.

h. Visitors: It shall be the responsibility of the Contractor to prevent possible injury to visitors at the project site. Suitable barriers, warning signs and directives shall be placed to direct persons not engaged in the work away from areas of danger. Proper guidance shall be set up where feasible to direct visitors into established areas of safety.

i. Safety Sign: The Contractor shall furnish a safety sign constructed in accordance with attached Plate 4. The sign shall be erected at the project site by the Contractor with the exact location to be determined by the Project Officer. The sign will not be considered for direct payment.

SP-17. CONTRACTOR QUALITY CONTROL: The Contractor shall provide and maintain an effective quality control program that complies with General Provision 23 of the contract entitled "Contractor Inspection System".

a. The Contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of his subcontractors, to ensure conformance to applicable specifications

and drawings with respect to the materials, workmanship, construction, finish, functional performance, and identification.

b. The Contractor shall furnish to the Project Officer within 15 days after receipt of Notice to Proceed a quality control plan which shall include the procedures and instructions to be used. A daily report, similar to the Construction Quality Control Report attached at the end of the Special Provisions Section, shall be used by the Contractor for his report to the Project Officer.

c. Unless specifically authorized by the Project Officer, no construction will be started until the Contractor's quality control plan is approved.

SP-18. PERFORMANCE OF WORK BY CONTRACTOR: The Contractor shall perform on the site, and with his own organization, work equivalent to at least fifty percent (50%) of the total amount of work to be performed under the contract. If, during the progress of work hereunder, the Contractor requests a reduction in such percentage; and the Project Officer determines that it would be to the Government's advantage, the percentage of work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Project Officer, and further provided that the Contractor furnishes adequate additional superintendence which is occasioned by the increase in subcontractors.

SP-19. INSURANCE REQUIRED:

a. The Contractor shall procure and shall maintain during the entire

period of performance under this contract the following minimum insurance: Contractors performing work within a Government installation shall furnish a statement attesting to the existence of insurance for bodily injury and property damage, in addition to legally required insurance of Comprehensive, General Liability and Automobile Liability Insurance. Such evidence of insurance shall be furnished to the Project Officer and shall be in such limits as is deemed reasonable under the circumstances. In no event shall these limits be less than $5,000 for property damage. Where the Financial Responsibility for Compulsory Insurance Law of the state in which the installation is located requires higher limits, the Automobile Liability insurance policy shall provide coverage for at least those limits. Prior to the commencement of work hereunder, evidence of insurance shall be furnished in a form satisfactory to the Project Officer. In addition, the Contractor shall furnish evidence of a commitment by the insurance company to notify the Project Officer in writing of any material change, expiration or cancellation of any of the insurance policies required hereunder not less than 10 days before such change, expiration or cancellation is effective, unless otherwise required by state law.

b. Unless the insurance coverage carried by the Contractor pursuant to a above specifically includes all subcontractors, the Contractor shall require each subcontractor performing work hereunder to procure and maintain during the entire period of its performance under this contract the types and minimum amounts of insurance coverage as stated in

a above. Evidence of such subcontract insurance coverage shall be furnished to the Contracting Officer with the statement as to subcontractors required under General Provision 36 entitled "Subcontractors".

WEATHER CONDITIONS at the site of the work are approximately as listed below. Complete weather records and reports may be obtained from the U.S. Weather Bureau. On the basis of Weather Bureau records available in the Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia, the following weather summary is listed for convenience:

CLIMATOLOGICAL DATA
ANNUAL SUMMARY 1966
BUCKHANNON STATION, UPSHUR COUNTY,
WEST VIRGINIA

Latitude 39° - 00'
Longitude 80° - 16'
Elevation 1445'

Month	Average Temperature (°F) & Departure From Normal Avg.	Dep.	Total Precipitation (in inches) & Departure From Normal Avg.	Dep.
JAN.	25.5	-8.7	3.99	-.15
FEB.	32.3	-2.6	3.84	.23
MAR.	43.8	2.6	1.66	-2.88
APRIL	49.5	-2.7	6.49	2.68
MAY	58.8	-2.2	2.51	-2.03
JUNE	67.3	-1.6	1.70	-3.70
JULY	73.3	1.5	4.24	-1.35
AUG.	69.0	-1.5	2.63	-2.20
SEPT.	60.8	-3.6	4.96	1.52
OCT.	49.7	-4.5	1.79	-1.42
NOV.	44.5	1.5	2.95	- .23
DEC.	33.4	-1.5	2.74	- .95
ANNUAL	50.7	-1.9	39.50	-10.48

Highest Temp.	96°	7-3-66
Lowest Temp.	-9°	2-6-66

CONTRACTOR'S NAME
(Address)

(Daily)
(Biweekly) CONSTRUCTION QUALITY CONTROL REPORT
(Weekly)

DATE:__________________Report No._______

Contract No.____

Description and Location of Work:________________________________

WEATHER: (Clear) (P. Cloudy) (Cloudy); Temperature: ___Min.,_____Max.
Rainfall________inches

Contractor/Subcontractors and Area of Responsibility

a.____
b.____
c.____
d.____
e.____
f.____
g.____

1. Work Performed Today: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in table above.)

2. Results of Surveillance: (Include satisfactory work completed, or deficiencies with action to be taken.)

3. Tests Required by Plans and/or Specifications Performed and Results of Tests:

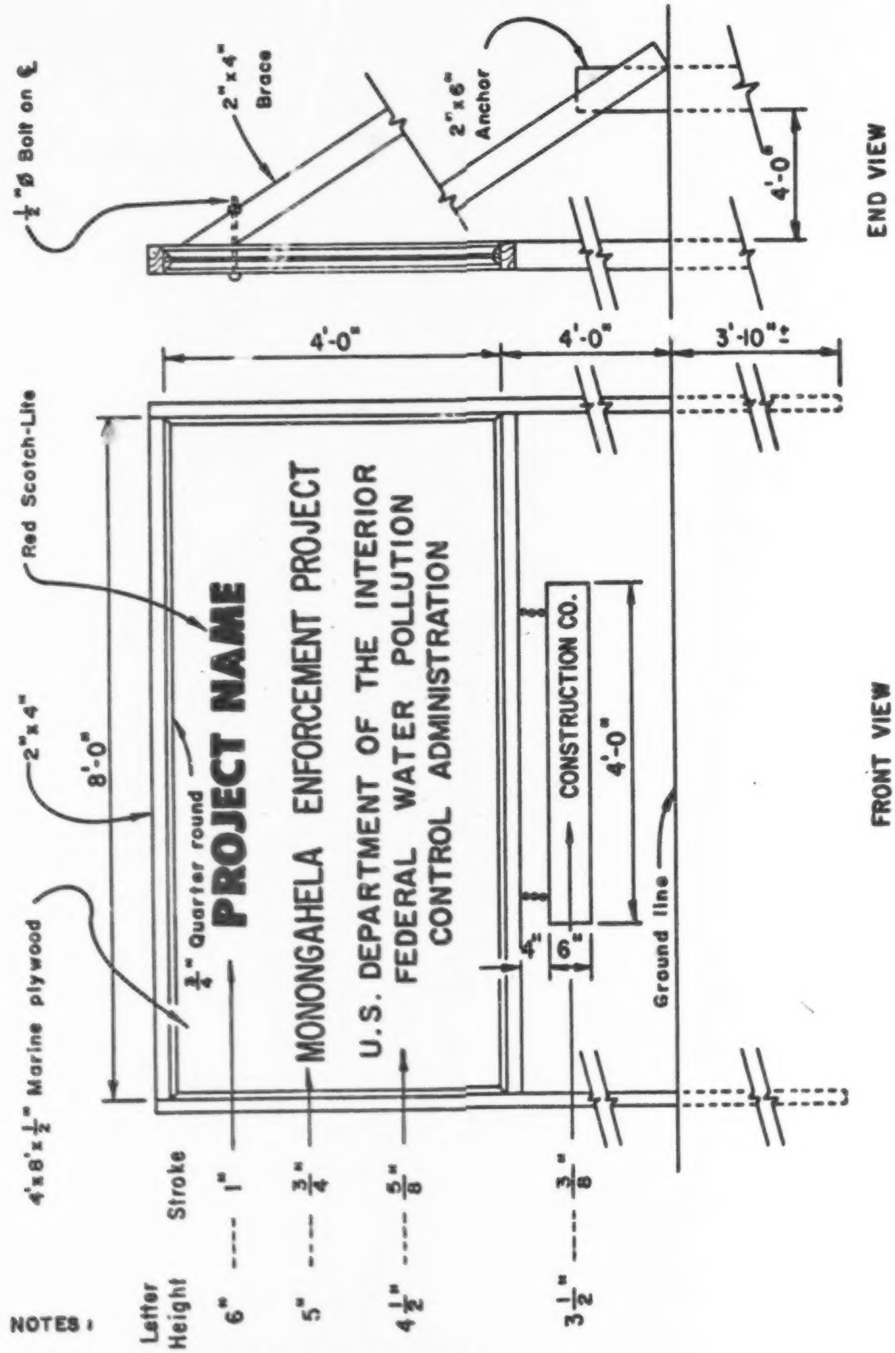
4. Verbal Instructions Received: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. Remarks: (Cover any conflicts in plans, specifications, or instructions.)

Inspector

CONTRACTOR'S VERIFICATION: The above report is complete and correct and all material and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications except as noted above.

Contractor's Approved Authorized Representative



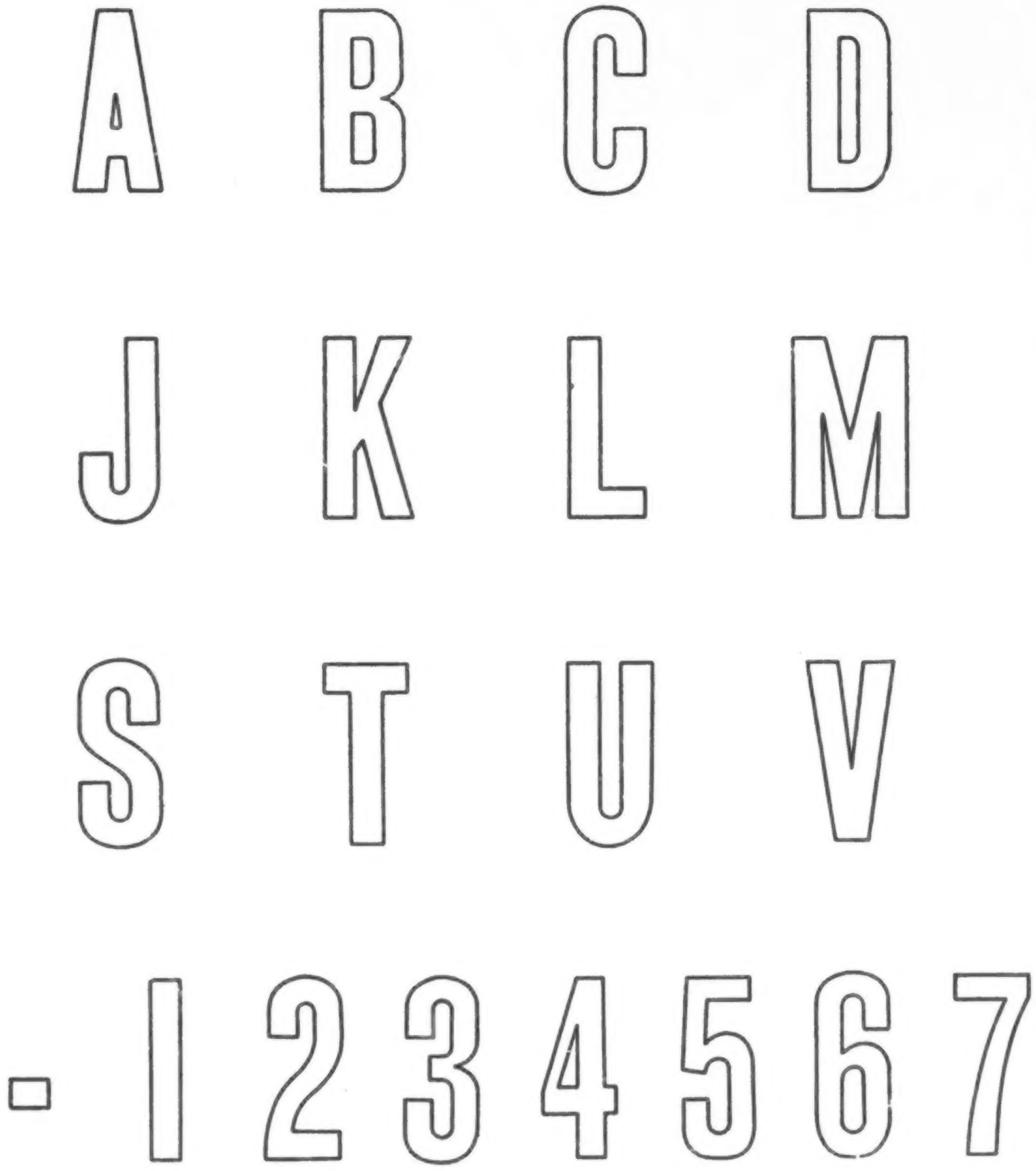
4'x8'x½" Marine plywood
2"x4"
8'-0"
¼" Quarter round
Red Scotch-Lite
PROJECT NAME
MONONGAHELA ENFORCEMENT PROJECT
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
CONSTRUCTION CO.
4'-0"
4"
6"
Ground line
4'-0"
4'-0"
3'-10"±
FRONT VIEW
½"Ø Bolt on ℄
2"x4" Brace
2"x6" Anchor
4'-0"
END VIEW
Letter Height
Stroke
6" ---- 1"
5" ---- ¾"
4½" ---- ⅝"
3½" ---- ⅜"

NOTES :

1. Before painting, surface to be clean, dry, free from grease and sanded.
2. Paint with one prime coat zinc oxide conforming to Fed. Specs. TT-P-641 and two finish coats white paint conforming to Fed. Specs. TT-P-104.
3. All lettering to be black enamel except as noted.
4. For lettering alphabet see PLATE 2

STANDARD
PROJECT SIGN

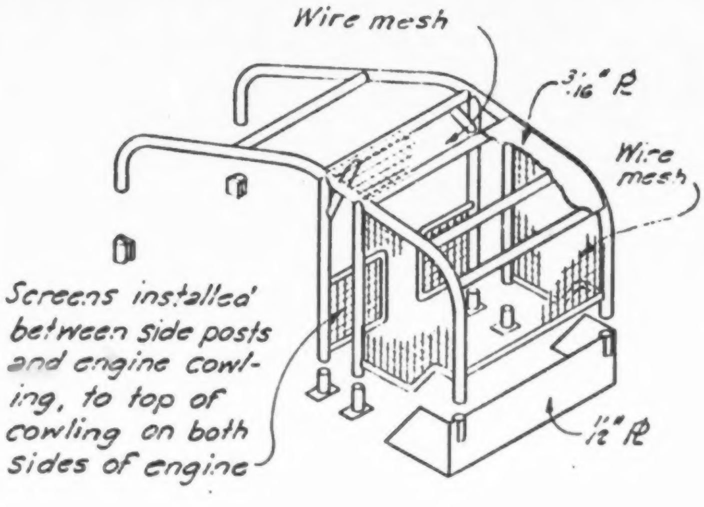
PLATE 1

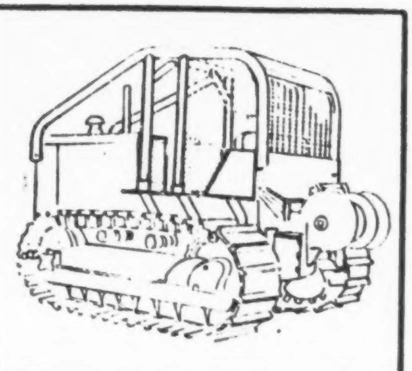

A B C D
J K L M
S T U V
- 1 2 3 4 5 6 7

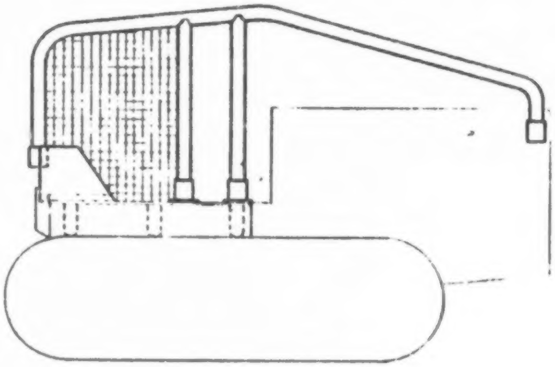
STANDARD
ALPHABET & NUMERALS

SP-21

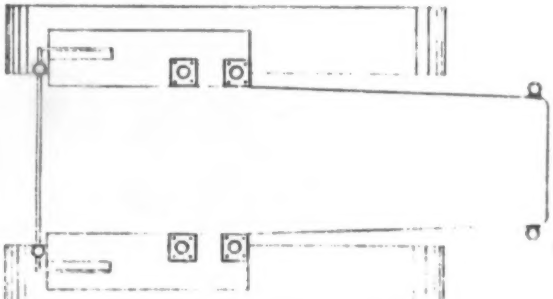
PLATE 2


Wire mesh
3/16" P
Wire mesh
Screens installed between side posts and engine cowling, to top of cowling on both sides of engine
1/2" P

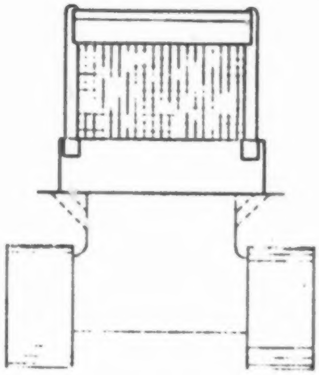




SIDE VIEW



PLAN VIEW



BACK VIEW

SPECIFICATIONS

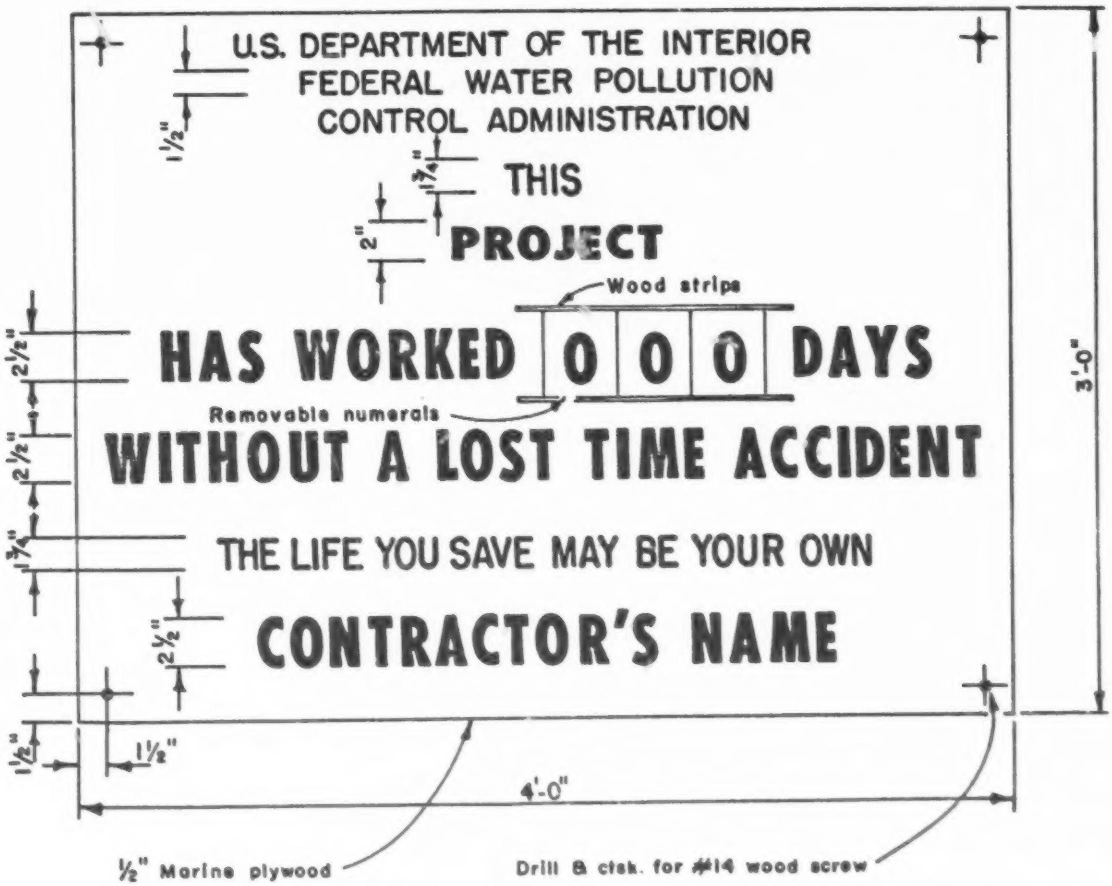
1. Pipe shall be extra heavy seamless ASTM-A-53, Grade-A.
2. All pipe formed by cold bend process using pipe dies which will confine deformation of roundness to 100 diameters.
3. Tank guard - ½" plate ASTM-A 7
4. Top plate - 3/16" plate ASTM-A 7
5. Top mesh - 4.27 lb./sq. ft. expanded metal. (Optional)
6. Rear mesh - 2 × 2 × 5/16" woven wire mesh.
7. All welds shall be continuous and equal in cross section to the lightest member.
8. Welding-welds shall be made only by operators who have been previously qualified by tests, as prescribed in the "Standard Qualification Procedure" of the American Welding Society.
9. Arc-Welding electrodes shall conform to the requirements of the "Specifications for Iron and Steel Arc-Welding electrodes" of the American Welding Society, latest edition.
10. Surfaces to be welded shall be free from loose scale, slag, rust, grease, paint, and any other foreign material, except that mill scale which withstands vigorous wire brushing may remain. Joint surfaces shall be free from fins and tears. Preparation of edges by gas cutting shall, wherever practicable, be done with a mechanically guided torch.
11. Pipe brackets under fenders shall be extra heavy pipe equal in diameter to main canopy members.
12. Pipe braces on center legs shall be extra heavy pipe of a size and length suitable various loading conditions that apply.
13. Painting: Shop coat - After inspection and approval and before leaving the shop all steel shall be thoroughly cleaned, by effective means, of all loose mill scale rust, spatter, slag, oil, dirt, and other foreign matter.

MINIMUM REQUIREMENTS

Gross tractor weight including attachments without canopy	Pipe diameter
Under 28,000 lb.	2½ inches
28,000 to 56,000 lbs.	3 inches
Over 56,000 lbs.	4 inches

SAFETY STANDARD
TRACTOR CANOPIES

PLATE 3


U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
THIS
PROJECT
Wood strips
HAS WORKED 0 0 0 DAYS
Removable numerals
WITHOUT A LOST TIME ACCIDENT
THE LIFE YOU SAVE MAY BE YOUR OWN
CONTRACTOR'S NAME
1½"
1¾"
2"
2½"
2½"
1¾"
2½"
1½"
1½"
3'-0"
4'-0"
½" Marine plywood
Drill & ctsk. for #14 wood screw

NOTES:

1. Board to be sanded and painted with one prime coat and two coats white enamel.
2. All lettering to be black enamel except as noted.
3. Three (3) sets removable numerals (0 thru 9) painted on ⅛" tempered pressed wood.

SAFETY SIGN

PLATE 4

PART III - TECHNICAL PROVISIONS

SECTION I - CONSTRUCTION GENERAL

1. SCOPE: The work covered in this section is outlined as a statement of construction requirements common to all work. Specific requirements for materials and installations are provided under the Technical Sections herewith. No claims for extras shall be made on account of items presumed to have been omitted from this section.

2. CONSTRUCTION RIGHT-OF-WAY:

2.1 The Contractor will be assigned construction areas or construction right-of-way limits for use in the prosecution of work under this contract, subject to the provisions of Clause 34 of the General Provisions. In the event that the Contractor finds it necessary to utilize for any purpose whatsoever, additional right-of-way, plant or construction area for the performance of this contract, he will be required to do the following:

(a) Where the additional required area is owned or controlled by the Government, the area may be assigned to the Contractor upon request, provided the area is not needed for other purposes and provided there is no additional cost to the Government. All necessary grading and drainage shall be done at the Contractor's expense.

(b) Where the additional required right-of-way is not owned or controlled by the Government, the Contractor shall make all necessary arrangements for the utilization of the required area at no additional ex-

pense to the Government. Such arrangements shall be subject to the approval of the Contracting Officer, and copies of agreements for use of such right-of-way shall be furnished the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from the use of the grounds.

3. PROTECTION OF EXISTING FACILITIES AND WORKS: The Contractor shall be responsible for the protection of work area from damage and upon completion of the work, shall leave existing works in a condition equal to that which existed when the work started. All work, storage of materials and construction plant shall be kept within the limits of the areas indicated. Existing utility lines aboveground that are shown on the locations, as well as utility lines constructed during excavation operations, are to be retained and shall be protected from damage during excavation and backfilling. If damaged, any damage shall be repaired by the Contractor at no expense to the Government. In the event that the Contractor damages any existing utility lines that are not shown, or the locations of which have not been made known to the Contractor, report thereof shall be made immediately to the Project Officer. If the Project Officer determines that repairs shall be made by the Contractor, such repairs will be ordered under "Changes" in General Provisions of the contract. The Contractor will be responsible for the protection of structures from any structural damage during construction operations. Road and surfaces shall be protected from damage by the work, or if damaged shall be repaired with equal materials. At all times the stor-

age and work area shall be kept in a condition conducive to safety of workmen and the public, and neat in appearance. Waste or surplus materials shall not be allowed to accumulate in the construction area.

4. UTILITIES, ROADS AND HEALTH FACILITIES:

4.1 Public Utilities: The Contractor shall make his own arrangements for use of public and private utilities as found available.

4.2 Health Facilities: The Contractor shall observe all state and local laws with regard to establishing sanitary facilities and for disposal of waste and refuse.

4.3 Barricades: At each location where safe operation requires the closing of roads and other arteries leading to the work under this contract, except at established entry and exits, the Contractor shall maintain a heavy plank barricade or other effective barrier during construction. Arrangements for closure of roads and other travel arteries shall be made by the Contractor with the responsible authorities and a copy of all such arrangements furnished to the Project Officer prior to closure. A satisfactory sign shall be placed on each barricade stating the artery is closed. The cost of barricades shall be at the expense of the Contractor.

4.4 Operations: When operations are being conducted near a U.S., state or county highway or when construction and hauling equipment is being used on or adjacent to such highway, the Contractor shall furnish signalmen and such warning signs as are necessary to provide adequate warning to the traveling public.

4.5 Utility Lines: Utility lines may be within the construction area. It shall be the responsibility of the Contractor to make his own arrangements for the alteration to or the removal of the utility or obstruction. The Contractor's operations shall conform to the requirements specified in paragraph SP-16. Copies of agreements made by the Contractor with any utility company shall be furnished to the Project Officer before construction begins, and such agreements shall clearly relieve the Government of any responsibility for damages.

5. CONSTRUCTION ROADS AND RAMPS:

5.1 Access Roads: Access roads are required, and as approved, shall be built by the Contractor for construction purposes. The grade and the width of such roads shall be sufficient for movement of all necessary personnel and equipment to and from the work sites. Existing roads traveled in part for such purpose shall be used so as to permit movement of traffic by others. Dust control, safety signs, sprinkling and other controls shall be maintained by the Contractor and shall be subject to review and approval prior to construction. Upon completion of work under this contract, roads shall be disposed of as directed by the Project Officer and the area left in a sightly condition.

5.2 Construction Roads: The Contractor shall construct roads as may be necessary for the conduct of work, without additional cost to the Government. The Contractor shall arrange his hauling operations so as to cause a minimum of interference with traffic and shall furnish flagmen and other facilities as required to avoid additional hazards to the pub-

lic. All roads shall be maintained in first-class condition during all periods of their use. Roads shall be sprinkled wherever, in the opinion of the Project Officer, control of dust is necessary to insure safe movement of construction traffic. Upon completion of work under this contract, roads shall be disposed of as directed.

5.3 Ramps: Ramps shall be provided and maintained for access of equipment into excavation areas. Locations, grades and width are subject to review and approval by the Project Officer prior to construction.

5.4 Traffic Control: The Contractor shall be responsible for the safe control of traffic on all roads used primarily for the work under these specifications and at their crossings with roads used by others. The Contractor shall, at his own expense, furnish all personnel, signal devices and signals necessary for the safe and efficient control of construction traffic on road systems used by the Contractor.

5.5 Joint Use of Transportation Facilities: The Contractor may use, jointly with others, existing access roads as approved. Unless otherwise specifically authorized in writing by the Project Officer, the Contractor will not be granted exclusive use of any road whether it be an existing road or one constructed by the Contractor.

6. DRAINAGE: The Contractor shall provide and maintain ditches, dikes and other facilities, within and adjacent to the work areas, to divert water from surface and subsurface flow away from work in place or under construction by this and other contracts, to prevent damage and interference. When it is necessary to drain water from the mine,

the flow during mine drainage shall not exceed 675 gallons per minute at any time; however, the total drainage shall be kept to a minimum amount as directed. Flow from the mine shall be directed into natural drainage leading to Hacker's Creek. The basis for design, location, type and size of drainage facilities are subject to review and approval by the Project Officer prior to construction.

7. DISPOSITION OF CONSTRUCTION FACILITIES: All buildings and facilities constructed by the Contractor shall be maintained in satisfactory condition with strict observance of the rules of sanitation, safety and order as may be established by the Project Officer. Prior to final payment under the contract, all building and facilities constructed by the Contractor for his own use shall be removed from the site by the Contractor.

8. COORDINATION WITH OTHERS: Public and private authorities and other contractors on U.S. Government work will be working in assigned work areas during the life of this contract. The Contractor shall coordinate his work with others to avoid undue interference and shall conduct his operations, other than approved required access, within the limits of the assigned construction area or construction right-of-way limits.

9. ORDER OF WORK:

9.1 General: The purpose of this paragraph is to specify requirements for the orderly construction of work stated in paragraph SP-1. The Contractor shall submit, for approval of the Project Officer prior to the start of work, the general outline of this method of procedure for prosecution of the work. A suggested CPM Logic Network is attached as Exhibit A. Work sites are designated and located on Drawing No. 103-1. Commencement of work is fifteen (15) calendar days after the date of receipt by the Contractor of notice to proceed with the entire contract.

9.2 First Order of Work: The Contractor shall complete site layouts, finish clearing Work Sites II and V and complete initial excavation work on Opening No. 9 for initiating drainage within 6 working days after commencement of work.

9.3 Second Order of Work: Excavation for Work Sites II, III and IV, remedial work of plugging Openings 1, 2 and 3 and drilling on Tunnel A shall be completed as Second Order of Work and shall be completed within 16 working days after commencement of work.

9.4 Third Order of Work: Plugging of Tunnel A, drilling on Tunnel B, excavation for Work Site V, disposal of gob in mine and plugging of Openings 4, 5 and 6 shall be completed as Third Order of Work and shall be completed within 26 working days after commencement of work.

9.5 Fourth Order of Work: Plugging of Tunnel B, drilling on Tunnel C, excavation of Work Site VI and plugging of Openings 7 and 8 shall be completed as Fourth Order of Work and shall be completed within 36 working days after commencement of work.

9.6 Fifth Order of Work: Plugging of Tunnel C, excavation and remedial work on Opening No. 9 shall be completed as Fifth Order of Work and shall be completed within 39 working days after commencement of work.

9.7 Sixth Order of Work: The Contractor shall complete the remainder of the contract work, remove construction plant facilities and clear up work sites and plant areas as the Sixth Order of Work within 41 working days after commencement of work.

10. PROGRESS CHARTS: Progress charts submitted in accordance with paragraph 35 of the General Provisions shall indicate the required data for each of the bid items, including the schedule for the following principal features of work:

10.1 Clearing and Grubbing:

a. Work Site II

b. Work Site V

10.2 Drilling:

a. Tunnel A

b. Tunnel B

c. Tunnel C

10.3 Excavation:

a. Initial Cut and Dike-Opening No. 9

b. Opening No. 1

c. Opening No. 2

d. Opening No. 3

e. Opening No. 4

f. Opening No. 5

g. Opening No. 6

h. Opening No. 7

10.3 Excavation (Continued):

i. Opening No. 8

j. Opening No. 9

10.4 Mine Opening, Preparation:

a. Opening No. 2

b. Opening No. 3

c. Opening No. 4

d. Opening No. 5

e. Opening No. 6

f. Opening No. 7

g. Opening No. 8

10.5 Gob Disposal:

a. Opening No. 4 or 5

10.6 Sealing:

a. Opening No. 1

b. Opening No. 2

c. Opening No. 3

d. Opening No. 4

e. Opening No. 5

f. Opening No. 6

g. Opening No. 7

h. Opening No. 8

i. Opening No. 9

j. Tunnel A

10.6 Sealing (Continued)

k. Tunnel B

l. Tunnel C

10.7 Site Clean-up and Removal of Equipment:

a. Work Site No. I

b. Work Site No. II

c. Work Site No. III

d. Work Site No. IV

e. Work Site No. V

f. Work Site No. VI

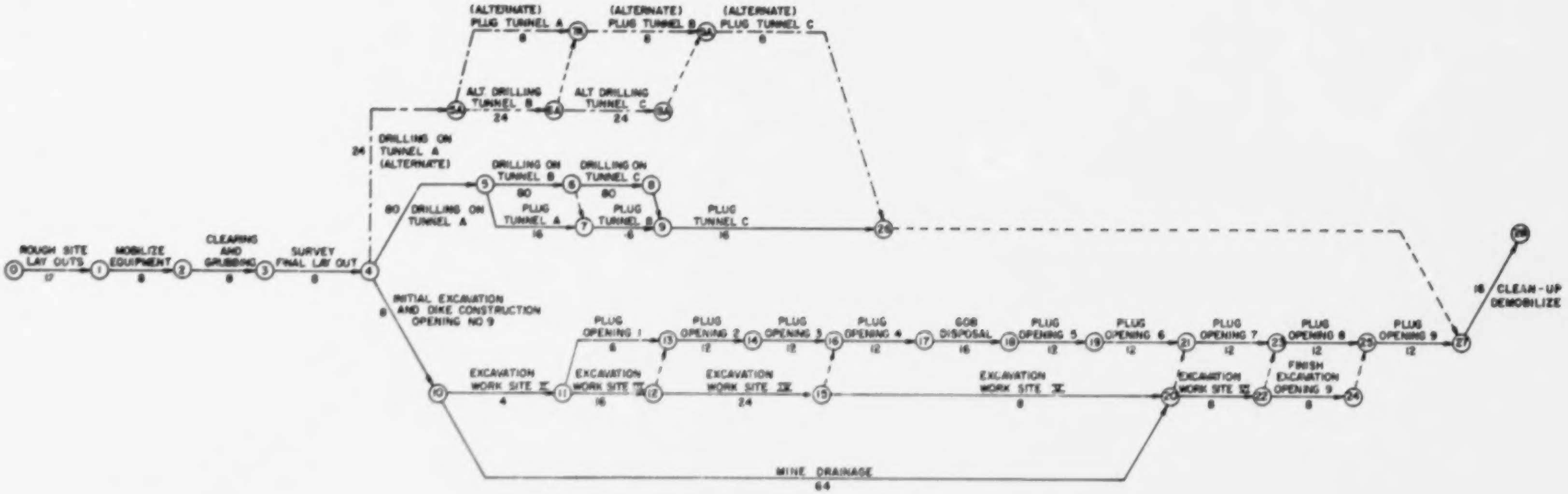
g. Work Site No. VII

11. WATERWAY & DRAINAGE CROSSINGS: The Contractor shall construct approved crossings where access roads and construction roads cross waterways and/or drainage paths with adequate openings for drainage and stream flow. Structures for crossings shall be safe for all operating equipment and vehicles and shall be adequate for drainage and flow of the waterway. The structures constructed by the Contractor shall be left intact upon termination of the contract and shall become the property of the owner.

12. PROJECT SIGN: The Contractor shall provide a project sign constructed in accordance with Plate 1, page SP-20 of Part II - Special Provisions. The sign shall be erected at the project site by the Contractor at the location determined by the Project Officer. The project sign shall be left in place upon completion of the contract work and shall become the property of the Government. No separate payment will be made for the sign.

13. PURCHASE ORDERS: Two (2) copies of each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project shall be furnished the Project Officer as soon as issued, and immediate notice shall be given him of the receipt of any material for the work, together with detailed lists of same. Each purchase order shall be clearly identified with the applicable contract number. At the option of the Contractor, those copies of purchase orders may or may not indicate the price of the article purchased.

14. PAYMENT: No separate payment will be made for work referred to in this section and all costs of operations therefor shall be considered a subsidiary obligation of the Contractor to be included in the applicable contract price or prices.


ROUGH SITE LAY OUTS 17
MOBILIZE EQUIPMENT 8
CLEARING AND GRUBBING 8
SURVEY FINAL LAY OUT 8
24 DRILLING ON TUNNEL A (ALTERNATE)
ALT DRILLING TUNNEL B 24
ALT DRILLING TUNNEL C 24
(ALTERNATE) PLUG TUNNEL A 8
(ALTERNATE) PLUG TUNNEL B 8
(ALTERNATE) PLUG TUNNEL C 8
80 DRILLING ON TUNNEL A
DRILLING ON TUNNEL B 80
DRILLING ON TUNNEL C 80
PLUG TUNNEL A 16
PLUG TUNNEL B 6
PLUG TUNNEL C 16
8 INITIAL EXCAVATION AND DIKE CONSTRUCTION OPENING NO 9
PLUG OPENING 1 6
PLUG OPENING 2 12
PLUG OPENING 3 12
PLUG OPENING 4 12
GOB DISPOSAL 16
PLUG OPENING 5 12
PLUG OPENING 6 12
PLUG OPENING 7 12
PLUG OPENING 8 12
PLUG OPENING 9 12
EXCAVATION WORK SITE I 4
EXCAVATION WORK SITE II 16
EXCAVATION WORK SITE III 24
EXCAVATION WORK SITE IV 8
EXCAVATION WORK SITE V 8
FINISH EXCAVATION OPENING 9 8
MINE DRAINAGE 64
16 CLEAN-UP DEMOBILIZE
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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28

CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBER 12-007A
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

SECTION 2

CLEARING AND GRUBBING

1. SCOPE: This section covers all operations in connection with the clearing from designated areas of all trees, brush, logs, downed timber, other herbaceous vegetation, fences, buildings and other structures, all rubbish and the grubbing of stumps and roots and the disposal of all material resulting from the clearing and grubbing operations.

2. CLEARING: Clearing shall consist of the felling and satisfactory disposal of trees, vegetation and other material including downed timber, snags, brush, rubbish and fences within the area to be cleared. Such growth shall be cleared flush with the original ground surface by cutting, pulling, grubbing, or other approved methods. The areas to be cleared shall include those Work Sites as shown on the Mine Site Map and designated to be cleared in the Order of Work, Section 1 of the Technical Provisions, together with a 10-foot strip measured horizontally beyond and contiguous thereto of all excavated areas. Trees shall be felled in such a manner as to avoid damage to the existing structures and installations, and to those under construction as well as with due regard for the safety of employees and others.

3. GRUBBING: Grubbing shall consist of the removal and disposal of all stumps, roots larger than 1 inch in diameter, partially buried logs and other organic or metal debris not suitable for work site purposes, to a minimum depth of 3 inches below the graded surface. The areas to be grubbed shall include all areas to be cleared as specified above.

4. EXISTING ROADS, STRUCTURES AND IMPROVEMENTS: Existing Roads, structures and improvements not specified herein for removal, razing and disposition will be removed by others or left in place.

4.1 Transmission Lines: Operations adjacent to or under overhead transmission lines shall be accomplished in accordance with the provisions of the Safety Manual EM 385-1-1. These operations shall not be initiated until the utility company has been notified and operations coordinated therewith. Any temporary transmission line revisions, relocation and/or other work required shall be the responsibility of the Contractor. Payment for this work will be included in the lump sum price for "Clearing and Grubbing".

5. DISPOSAL OF MATERIAL: The material cleared and grubbed from the area shall be completely removed by transporting from the site or burned within the cleared areas, unless otherwise approved by the Project Officer. The disposal of material shall closely follow the clearing and grubbing process so that the materials will not become scattered over the site. In no case shall cleared and grubbed material be thrown or left in drainage area. Refuse to be burned shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer.

6. STRUCTURE CLEANING: The term (structure) shall include buildings or portions thereof, razed building formations, walks, cellars, fences, mine opening bracing, mine drainways, etc. Structures shall be removed or filled to the ground surface. Combustible materials obtained from

removal of structures shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer. Noncombustible materials shall be disposed of as directed by the Project Officer.

7. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for clearing and grubbing will be made, but payment for this work will be made at the contract lump sum price for "Clearing and Grubbing", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed, as shown on the drawings and as specified herein.

SECTION 3

EXCAVATION

1. SCOPE: This section covers all excavation on the project, except any which might be specified in other sections in addition to excavation specified herein.

2. CLASSIFICATION OF EXCAVATION: Excavation is defined as the removal of materials consisting of topsoil, clay, silt, sand, gravel, rock and boulders and similar materials that exist within the areas to be excavated. All excavation hereinafter specified shall be done on the unclassified basis, as provided for under the item designations of the contract. No consideration will be given to the nature of the materials and all excavation will be designated as excavation.

3. LINES AND GRADES AND TOLERANCES:

3.1 Lines and Grades: The location and dimensions of the proposed excavations are indicated on the drawings designated as 103-2, 103-3, 103-4, 103-5, 103-6 and 103-7. The Contractor will make initial cut at the location and to the dimensions shown in the drawings for the purpose of determining the exact location of the opening. Additional cuts may be made at the direction of the Project Officer until the opening is located. Upon location of the mine opening, excavation will proceed to the dimensions shown on the drawing as related to the center line of the actual opening. However, the Government reserves the right to order increase or decrease of the depth, length, width, or slopes of

the excavation if conditions develop which require such revisions. In order to assure an adequate mine opening size and seal contact surface, excavation shall be extended as directed by the Project Officer. Side slopes at the bottom of the excavation shall be adjusted accordingly as directed to provide for the varying elevations of the bottom of excavation. The above reservations will not apply to revisions after work has been satisfactorily performed. Changes in quantities of materials shall not be made cause for claims for increased unit price except as provided in paragraph SP-6 of the Special Provisions.

3.2 Surface Tolerance: Grading will be in conformity with the lines and grades shown on the drawing with a maximum tolerance of six inches above or below the designated lines. However, the maximum tolerance in either direction may not extend over an area greater than 2,000 square feet. Excavation beyond the lines and grades shown, and as extended above, shall not be included in the excavation measured for payment except when the overexcavation is unavoidable because of the character of the material and is not due to fault or negligence of the Contractor.

4. UTILIZATION OF MATERIALS: Suitable material removed from the required excavations shall be used in the formations of embankments, fill, ramps, etc. Excavated material unsuitable for this work shall be transported to and disposed of in the designated waste areas.

5. METHODS AND EQUIPMENT:

5.1 Excavation may be carried on by any approved method and by the

use of any approved equipment adapted to the work and which will meet the operational schedule requirements. Dry excavation operations shall be used in all areas. Equipment shall conform to the safety provisions of SP-16, Special Safety Requirements.

6. SLIDES: In the event a slide occurs which interferes with the construction, the Contractor will excavate the slide areas to stable slopes as directed. Material excavated from slide areas shall be disposed of in accordance with the specific utilization of the particular type of material involved.

7. REMOVAL OF WATER: The Contractor shall construct and maintain all necessary channels, flumes and/or other temporary diversion and protective works, shall furnish all material required therefor, and shall furnish, install, maintain and operate all walls, sandpoints, pumping and other equipment for dewatering and for maintaining work site free from water as required for construction of mine remedial work.

8. WASTE AREAS: Material placed in waste area shall be graded to drain.

9. MEASUREMENT:

9.1 Excavation: The unit of measurement for excavation shall be the cubic yard. Initial surveys will be made of existing ground surface of all excavation areas prior to work under this contract. Measurement of excavation will include the total volume of material computed by the average end area method, between the surfaces established by the initial survey and the surface of completed excavation as approved. The measurement will not include the yardage of material excavated without author-

ization beyond the normal slope lines or the yardage of material used for purposes other than those shown or directed. The measurement of excavation will not include water or other liquid, but will include mud, muck, or similar semi-solid material which had not been disturbed by the Contractor and which cannot be drained away, and overbreakage due to slides which were not caused by the carelessness of the Contractor; and authorized excavation of unsuitable materials.

10. PAYMENT:

10.1 Excavation: The yardage of excavation measured as specified hereinbefore will be paid for at the contract unit price per cubic yard for "Excavation", which payment will constitute full compensation for all labor, equipment, tools and supplies necessary to complete all items of the work including excavating, hauling and the prescribed disposal of unsuitable material.

SECTION 4

EXPENDABLE GROUT RETAINER PLUG

1. SCOPE. The work covered by this section consists of furnishing all material and equipment, and performing all labor for the manufacture, assembly, transporting, placing and filling of the Expendable Grout Retainers in the specified mine openings to effect the desired plug.

2. MANUFACTURE OF RETAINERS:

2.1 Materials of Construction: The Expendable Grout Retainer will be constructed as shown in Drawing No. 101-7. The fabric used shall be a cotton material, having a plain weave with a thread count of 26 x 20 threads per inch, a tensile strength of 175 psi and a weight of 10 ounces per square yard. The thread shall be cotton with a tensile strength of 450 psi. Webbing material shall be cotton with a tensile strength of 500 pounds per inch of width.

2.2 Method of Construction: The Expendable Grout Retainer shall be constructed using seams and stitched areas containing 9 stitches per inch. The seam as per Detail A on Drawing No. 101-7 shall be a flat and folded seam made using a flat stitch, and the seam shown in Detail B shall be a lapped seam made with a triple chain stitch, the chain side of the stitch being located on the inside of the retainer. The webbing shall be 4" in width with length as indicated on the drawing. It shall be equipped with 1/2" brass eyelets located as shown on Drawing No. 101-7.

2.3 Sizes: The sizes for Expendable Grout Retainers will vary according to the location of each retainer in the completed plug for each

opening as indicated herein and shown on Drawing No. 101-7.

Bottom retainer shall have a nominal length of 20 feet, a nominal width of 12 feet, and a height of 2-1/2 feet.

Second retainer (placed on top of bottom retainer) shall have a nominal length of 16 feet, a nominal width of 12 feet and a height of 2-1/2 feet.

The third (or top) retainer shall have a nominal length of 13 feet, a nominal width of 12 feet and a height of 2 feet.

Should the mine opening to be plugged exceed seven (7) feet in height, a fourth retainer may be necessary. If sc, this fourth retainer shall have a nominal length of 10 feet, a nominal width of 12 feet and a height of one and one-half (1-1/2) feet.

In the event that the mine opening width exceeds twelve (12) feet, the nominal width of the retainers shall be increased accordingly.

3. ACCESSORIES FOR RETAINERS:

3.1 Monitoring, Drain and Fill Pipes: All pipes shall conform to the requirements for Type II Polyethylene Plastic Pipe as set forth in Commercial Standard CS255-63 as developed under the procedures of the Commodity Standards Division issued by the U.S Department of Commerce. Drain pipe will be installed in the bottom bag only. Drain pipe and fill pipes shall be of 2" nominal diameter (2.067" ID) with a wall thicknexx of .180" and shall have a maximum working pressure of 100 psi at 73.4° F. Monitoring pipes shall be of 1" nominal diameter (1.049"ID) with a wall thickness of .091" and shall have a maximum working pressure

of 100 psi at 73.4°F. The length for each pipe shall be as shown on Drawing No. 101-8.

3.2 Pipe Adapters: The monitoring pipes shall be equipped with 1" NPT male threaded adapters made of polyallomer material. The drain pipe and fill pipes shall be equipped with 2" NPT male threaded adapters made of polyallomer material.

3.3 Adapter Clamps: Clamps shall be those normally used on 1" and 2" sizes of flexible plastic pipe, such as worm and sector type, made of 18-8 stainless steel.

3.4 Retainer Connector Clamps: Clamps shall be plastic pipe clamps of the worm and sector type, made of 18-8 stainless steel. The size shall be 1-1/2" nominal diameter for the 1" monitoring pipes and 2-1/2" size for 2" drain pipe and fill pipes.

3.5 Retrievable Monitoring Valve: Valve shall be 1", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.6 Retrievable Drain Valve: Drain valve shall be 2", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.7 Retrievable Fill Valve: Fill valve shall be 2" bronze gate type with NPT female thread, 125# WOG rating.

4. EQUIPMENT REQUIRED:

4.1 Pumping Equipment: Pumping equipment shall be capable of pumping the mixed grout slurry at rates of from 0 to 50 cubic yards per hour, injecting same into retainer against a maximum pressure of 20 psi through a nominal 2" line.

4.2 Monitoring Equipment: The monitoring equipment will consist of instrumentation capable of monitoring and recording fluid pressure in the retainer over a range of from 0 to 25 psi.

5. GROUTING SLURRY: The grouting slurry required to fill each retainer will be mixed as specified in Section 5, paragraph 3 of the Technical Provisions.

6. PLACEMENT OF GROUT RETAINERS IN OPENINGS: The Contractor shall place and fill the required number of Expendable Grout Retainers in each designated mine opening to effect a watertight seal. The retainers will be placed in accordance with Drawing No. 101-6 so that the bottom retainer is flush with or inside the mine opening as excavated, and in accordance with the following specifications:

6.1 Bottom Retainer: The drain pipe shall be placed through the retainer and the fill pipe placed inside as shown on Drawing No. 101-8 and securely clamped to the canvas spout, using the clamps listed in paragraph 3 above. The adapters shall be placed on the outside end of the pipes and proper valves affixed thereto as specified.

After the opening has been properly prepared as specified in appropriate sections of the Technical Provisions, the retainer shall be pushed or placed in the mine opening, using the drain pipe as an aid in placement. The retainer will be placed in such a manner as to subject it to a minimum amount of distortion and localized stress when filled to the specified height with grouting slurry. Care should be taken that the pressure exerted by the grouting pump will not exceed 5 psig. Axial

movement of the retainer as it is being filled, due to slope of the mine floor, shall be controlled by the Contractor in a manner which will prevent damage to the retainer and allow it to cover the full retainer area on the mine floor. Any deviations from these specifications and drawings desired by the Contractor because of mine opening conditions or water flow from opening shall be presented to the Project Officer for approval prior to initiation of work.

When placed in the mine opening, the retainer shall include the drain pipe or monitoring pipe, fill pipe and other accessories as shown on Drawing No. 101-8.

6.2 Subsequent Retainers: The additional retainers necessary to plug the opening will be placed in successive order on the bottom retainer after the grout slurry has set as indicated by tests required under paragraph 3.4 of Section 5 of the Technical Provisions. Each successive retainer shall be placed only after the previously placed retainer has taken its required set and has been properly prepared for the succeeding retainer. Placement will follow the procedure for the bottom retainer as specified above. The top retainer should be filled to the extent necessary to cause contact with and bonding to the mine opening roof. The contact will be maintained by closing the valve on the fill line when the instrumentation indicates maximum pressure of 5 psi (gage) has been obtained.

7. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this Section and all costs of operation therefor

shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for plugging the mine openings.

SECTION 5

GROUTING MATERIALS

1. SCOPE: The work covered by this section shall consist of furnishing all material and equipment, and performing all labor for transporting, blending and mixing the materials as specified herein.

2. MATERIALS: The materials used in mixing the slurries shall conform to the following specifications:

2.1 Cement:

Portland Type, conforming to ASTM Type I specifications, ASTM C150-66.

2.2 Fly Ash:

When used as an admixture, shall conform to "Specifications for Fly Ash for Use as an Admixture in Portland Cement Concrete", ASTM C350.

2.3 Gypsum:

Hemihydrate form conforming to specifications as set forth in ASTM C59-50, Gypsum Molding Plaster.

2.4 Lignin Retarder:

A Calcium-Sodium Lignosulfonate which acts as a cement retarder and a dispersant of particles in a slurry composed of water and finely ground materials. Approved materials are:

(1) Lignox - Distributed by Baroid Div. of National Lead Co.
Houston, Texas

(2) HR-7 - Distributed by Halliburton Services, Weston,
West Virginia

(3) Kembreak-Distrubuted by Milwhite Company, Houston, Texas

(4) Any other equal material approved by the Project Officer

2.5 Bentonite:

Wyoming type (sodium montmorillonite) conforming to specifications as set forth in API STD 10A, API "Specifications for Oil-Well Cements and Cement Additives", Section 3.

2.6 Sodium Silicate Solution:

This material is an aqueous solution of soluble sodium silicate with a mole ratio of $1Na_2O: 3.22\ SiO_2$. This solution has a gravity of 40-41.5 degrees Baumé, and a typical viscosity of about 206 centipoise. Approved commercial products are Grade 40 from Diamond Alkali Company and Type N from Philadelphia Quartz Company.

2.7 Salt (Sodium Chloride):

This material should meet specifications as set forth in ASTM D632-58, Type 2 or 3 Salt.

2.8 Water:

Mixing water for cement slurry shall be fresh, clean and potable. Nonpotable water may be used only if it produces sample cubes having 7 and 28 day strengths equal to the strength of similar specimens made with clean, potable water, when tested in accordance with "Method of Test for Compressive Strength of Hydraulic Cement Mortars" (ASTM C 109).

3. EXPENDABLE GROUT RETAINER SLURRY:

3.1 Preliminary Mixing: Samples of materials to be used in the slurry, as listed in paragraph 2, will be obtained by the Contractor in accordance with Section 1, API RP 10B, "Recommended Practice for Testing Oil Well Cements and Cement Additives", Fifteenth Edition. Scales shall meet specifications set forth in Section 3, API RP 10B.

The proportions of materials to be mixed will be 20% Cement, 40% Fly Ash, 40% Gypsum and 0.6% Lignin Retarder by weight, with water added equal to 41% of the weight of the dry materials, excluding retarder. Water and curing temperature should approximate that expected on job site.

Mixing device used in laboratory for mixing sample can be any type of mixer that can intimately mix the ingredients with the mixing water. If high speed mixer is used, such as Waring Blendor, mixing time should be 35 seconds. The mixing time for a slow speed mixer shall be two minutes.

3.2 Testing of Preliminary Mix: Slurry mixed as in paragraph 3.1 shall be tested for thickening time in accordance with Appendix B, "Atmospheric Pressure Consistometer", API RP 10B, or by similar method approved by the Project Officer. The slurry shall have a minimum thickening time of 1 hour after mixing, and shall not have a viscosity over 25 poise. Sufficient samples of the slurry shall be placed in molds conforming to ASTM C 109 to permit compressive strength tests on nine sample cubes. Three cubes shall be tested 2 hours after mixing using a hydraulic type testing machine in accordance with ASTM C 109, and shall exhibit a compressive strength in excess of 10 psi. Tests shall be made of three specimens at 24 hours with a minimum compressive strength requirement of 100 psi, and at 72 hours with a minimum required strength of 200 psi. If the tests indicate that the material does not meet these specified requirements, the amount of retarder can be adjusted to obtain a slurry which will meet the specifications. This situation can be caused by the variation in gypsum from one area to another. The substitute slurry which does meet the specifications should then be approved by the Project Officer before it is used on the work site.

3.3 Site Slurry Mixing: The Contractor shall mix the approved slurry on the work site in the following proportions:

MATERIALS PER CUBIC YARD OF SLURRY

Pounds				Gallons
Cement	Fly Ash	Gypsum	Retarder	Water
430	860	860	18.2*	105

*Based on 0.6% as specified. If substitute is approved, this value will change accordingly.

Mixing shall be accomplished in a continuous manner so that a quantity of 50 cubic yards per hour shall be thoroughly mixed and subsequently placed in the Expendable Grout Retainer as specified in Section 4 of the Technical Provisions.

3.4 Site Slurry Testing: Samples shall be taken from the discharge side of the pump which is placing the slurry in the Expendable Grout Retainer during the last part of the filling operation. Samples shall be taken in a small container, such as a disposable cup, and in molds conforming to ASTM C 109.

Sample in cup shall be tested one hour after filling operation using a sharp instrument, such as a nail or knife, to determine if material has set. If material is still fluid, tests shall be made each 15 minutes thereafter until set. When the test indicates that the material is set, the retainer will then have sufficient strength to permit a second retainer to be placed on it for continuation of the work.

If the material does not set within three (3) hours after start of mixing, the job will be stopped and the retainer removed from the hole. A new batch will then be prepared and tested. Approved tests must be obtained before job proceeds.

Samples in mold shall be tested in accordance with ASTM C 109 for compressive strength of three specimens each at 24 hours and at 72 hours. Tests shall confirm preliminary tests and specimens shall exhibit a minimum average strength of 100 psi at 24 hours and 200 psi at 72 hours. Results shall be reported on the daily work report.

If the tests for compressive strength fail to meet the specified minimum strengths, work shall be stopped immediately. No further work shall be done until an approved slurry is obtained. Cores from the retainer in place shall be obtained by the Contractor and test samples from the core shall be tested. If these samples are satisfactory, the work may resume. If tests indicate the material still does not meet the specified strength, the plug will remain in place but the materials will not be considered to constitute basis for payment.

4. PRESSURE GROUTING SLURRIES:

4.1 Grouting Slurry "B":: Pressure grouting slurry "B" will be a silicate-cement slurry. This slurry is composed of a mixture of two compositions. Each separate slurry shall be mixed in the following proportions:

CEMENT SLURRY

ASTM Type I Cement - - - - - - - - - - - 35.75 parts by weight
Fly Ash- - - - - - - - - - - - - - - - - - 35.75 parts by weight
Water- - - - - - - - - - - - - - - - - - - 28.50 parts by weight

SILICATE SOLUTION

Sodium Silicate Solution - - - - - - - - 62.0 parts by weight
Water- - - - - - - - - - - - - - - - - - - 38.0 parts by weight

Mixing shall be accomplished so that each composition shall be thoroughly mixed and subsequently placed by the two stream method into the grout area as specified.

The two components will be mixed on the work site in the following proportions per cubic yard of slurry required, and then mixed together in equal volumes as they enter the grout area, using the two stream method:

CEMENT SLURRY

Pounds		Gallons
Cement	Fly Ash	Water
552	552	52.8

SILICATE SOLUTION

Gallons	
Sodium Silicate	Water
55.9	45.2

4.2 Grouting Slurry "C": Grouting slurry "C" will be a slurry composed of ASTM Type I Cement and Fly Ash in equal volumes, with 2%

Bentonite added and salt saturated.

Mixing shall be accomplished by the Contractor so that the materials shall be thoroughly mixed and subsequently placed into the grout area as specified in Sections 8 and 11 of the Technical Provisions. The material will be mixed on the work site in the following proportions per cubic yard of slurry required:

MATERIALS PER CUBIC YARD OF SLURRY

Pounds				Gallons
Cement	Fly Ash	Bentonite	Salt	Water
872	687	31	354	118

5. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this section and all costs of operation therefor shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for conducting the slurry placement.

SECTION 6

HOLE DRILLING

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the drilling of holes required in remedial work on tunnels as specified in Sections 7, 8 and 9 of the Technical Provisions.

2. LAYOUT: The locations of the holes are indicated on Drawing Nos. 103-8 and 103-9. Base line and bench mark will be established by the Government. All other layout shall be the responsibility of the Contractor.

3. EQUIPMENT: All drilling and casing equipment used shall be of a type, capacity and mechanical condition suitable for doing the work, as determined by the Project Officer. The power and equipment and the layout thereof shall meet all applicable requirement of local, state and Federal regulations and codes, both safety and otherwise.

4. HOLE SIZES: All holes drilled in accordance with Drawing No. 103-8 shall have a diameter of twelve and one-quarter inches (12-1/4") with a tolerance of plus one and one-half inches (1-1/2"). Depth of these holes will be approximately forty feet (40'). All holes drilled for Tunnel Alternate No. 1 are shown on Drawing No. 103-9. These holes shall have a diameter of six inches (6") with a tolerance of plus one inch (1") and shall be drilled to a depth of approximately thirty-six feet (36').

5. CONCRETE: Concrete shall be 3000 psi compressive strength, at 28 days, formed to the lines and dimensions shown on Drawing No. 103-8, mixed and placed in accordance with ACI Standard 301-66 - "Specifications for Structural Concrete for Buildings".

6. STEEL-STRUCTURAL: All structural steel shall conform to Specifications for Steel for Bridges and Buildings" ASTM-A 7.

7. EXPLORATORY HOLES: Holes drilled in accordance with Drawing No. 103-8 which do not drill into the tunnel will be considered as exploratory holes. When tunnel location is established, the pattern of holes specified on the drawing will be drilled. Exploratory holes will be filled to surface immediately after drilling with gob or dirt, unless otherwise ordered by Project Officer.

8. TEMPORARY CASED HOLES: Immediately upon completion of drilling to required depth, hole will be cased with temporary type casing as indicated on Drawing No. 103-8. Temporary type casing will be nominal 10" Standard Schedule 40 pipe and shall conform to Grade B of "Specifications for Welded and Seamless Steel Pipe" ASTM-A 53.

Casing will remain in place until ordered removed by the Project Officer. Upon removal of casing, Contractor will fill hole with dirt to surface level.

9. PERMANENT CASED HOLES: Observation holes as indicated on the Contract Drawings and any other holes as directed by the Project Officer will be permanent cased holes. All permanent cased holes shall be drilled at the locations, in the direction, and to the depths shown on the

Contract Drawing or as directed by the Project Officer. All holes will be twelve and one-quarter inches (12-1/4") in diameter with a tolerance of plus one and one-half inches (1-1/2"). Upon completion of drilling to required depth, hole shall immediately be cased with permanent type casing as shown on Contract Drawing. Casing will be nominal 10" Standard Schedule 40 pipe and shall conform to Grade B of "Specifications for Welded and Seamless Steel Pipe" ASTM-A 53.

10. UNCASED HOLES: Holes drilled for Tunnel Alternate No. 1 will remain as uncased holes.

11. MEASUREMENT AND PAYMENT:

11.1 General: The contract prices for the various items of work and materials, as described in paragraphs 11.2 through 11.5, shall constitute full payment for mobilizing, demobilizing and furnishing all equipment, material, utilities and facilities to complete all holes covered under this section, including final clean-up of work site.

11.2 Uncased Holes: Payment for uncased holes will be by measured linear feet actually drilled.

11.3 Temporary Cased Holes: Payment for temporary cased holes will be by measured linear feet actually drilled.

11.4 Permanent Cased Holes: Payment for permanent cased holes will be by measured linear feet actually drilled.

11.5 Exploratory Holes: Payment for exploratory holes will be by measured linear feet actually drilled.

SECTION 7

PLUGGING TUNNEL A

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the plugging of Tunnel A as shown on the drawings and specified herein.

2. DRILLING: All drilling and casing operations will be performed in accordance with Drawing No. 103-8 and Section 6 of the Technical Provisions.

3. BULKHEAD CONSTRUCTION: Two bulkheads will be built in the tunnel by dumping sand through each set of five (5) holes which are temporarily cased. The sand used will pass 100% through a No. 4 screen, 70% through a No. 8 screen and 50% through a No. 12 screen. The sand will be dumped into the tunnel until a complete bulkhead across the tunnel area is obtained. As the sand is placed, a vibrator shall be used to aid in compacting the sand. A spud type vibrator having a minimum frequency of 7000 revolutions per minute, or any other approved by the Project Officer, may be used.

4. MONITORING CONSTRUCTION: The building of the bulkhead will be observed by the use of a closed circuit television system. A television camera will be lowered into the tunnel through one of the 3 center holes containing permanent type casing. The camera will be monitored from the surface. After the tunnel has been plugged, each side of the plug can be observed from the two (2) outer observation holes.

5. PLUGGING TUNNEL: When both bulkheads have been satisfactorily completed, the camera will be removed and the area between the bulkheads will be filled with concrete through the central permanently cased hole until full and standing in the pipe. The material used will be a 2000 psi ready-mix concrete with a slump of 8", mixed and placed in accordance with "Specifications for Structural Concrete for Buildings" ACI 301-66.

6. MEASUREMENT AND PAYMENT: The contract prices for the various items of work and materials, as described in paragraphs 6.1 through 6.3, shall constitute full payment for furnishing all equipment, labor and materials incidental to the work.

6.1 Sand: The unit of measurement for placing the sand in the tunnel will be the cubic yard placed. No payment will be made for sand wasted through negligence of the Contractor.

6.2 Concrete: The unit of measurement for placing the concrete will be the cubic yard placed. No payment will be made for concrete wasted through the negligence of the Contractor.

6.3 Television System: The unit of measurement for use of the closed circuit television system will be by the day of use.

SECTION 8

PLUGGING TUNNELS B AND C

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the plugging of Tunnels B and C as shown on the drawings and specified herein.

2. DRILLING: All drilling and casing operations will be performed in accordance with Drawing No. 103-8 and Section 6 of the Technical Provisions.

3. BULKHEAD CONSTRUCTION: Two bulkheads will be built in the tunnels by dumping gob from the designated area through each of five (5) holes which are temporarily cased. The gob will be dumped into the tunnel until a complete bulkhead is obtained across the tunnel area.

4. MONITORING CONSTRUCTION: The building of the bulkhead will be observed by the use of a closed circuit television system. A television camera will be lowered into the tunnel through one of the 3 center holes containing permanent casing and monitored from the surface. After the tunnel has been plugged, each side of the plug can be observed from the two (2) outer observation holes.

5. PLUGGING TUNNEL: When both bulkheads have been satisfactorily completed, the camera will be removed. The area between the bulkheads will be filled with a grouting slurry. The material used will be grouting slurry "C", mixed thoroughly according to specifications set forth in Section 5, paragraph 4.2 of the Technical Provisions. Mixing will

be accomplished continuously and pumped into the tunnel through the central permanently cased hole until full and standing in the pipe.

6. MEASUREMENT AND PAYMENT: The contract prices for the various items of work and materials, as described in paragraphs 6.1 through 6.3, shall constitute full payment for furnishing all equipment, labor and materials incidental to the work.

6.1 Gob: The unit of measurement for placing gob in the tunnels will be the cubic yard placed.

6.2 Placement of Grouting Slurry: The unit of measurement for placement of grouting slurry will be the cubic foot, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through the negligence of the Contractor.

6.3 Television System: The unit of measurement for use of the closed circuit television system will be by the day of use.

SECTION 9

TUNNEL ALTERNATE NO. 1

PLUGGING TUNNELS A, B AND C

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the plugging of Tunnels A, B and C as shown on Drawing No. 103-9 and specified herein.

2. DRILLING: All drilling and casing operations will be performed in accordance with Drawing No. 103-9 and Section 6 of the Technical Provisions.

3. PREPARATION: The tunnels will be sealed using explosives to collapse the overburden of the tunnel. The fifteen (15) holes will be prepared as follows:

a. Each hole will be loaded with six explosive charges in a staggered pattern as shown on Drawing No. 103-9, with sand packed between charges. As holes are loaded, charges will be connected to detonators and explosive cord. Each charge will contain approximately 25 pounds of liquid-solid mixture explosive of a high power, low velocity type.

b. After all shot holes are loaded, connect to trunk line. Trunk line should be connected so that lower charges will detonate first and upper charges will detonate in sequence to the upper charge.

4. PLUGGING OF TUNNEL: The explosives are planned to collapse the tunnel in such a manner as to completely block the tunnel. The charge should be detonated only after all safety precautions have been observed in clearing the area.

5. MEASUREMENT AND PAYMENT: The unit of measurement for the plugging of the tunnels will be the pounds of explosive used. This payment shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

SECTION 10

PLUGGING OPENINGS 2, 3, 4, 5, 6, 7 AND 8

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the plugging of the specified openings in the mine as shown on the drawings and specified herein.

2. EXCAVATION OF OPENING: The excavation of the opening will be done in accordance with the drawings and specifications included in Section 3 of the Technical Provisions.

3. PREPARATION OF OPENING: The opening will be prepared for placement of the sealing plug by first removing all loose rocks and debris from the drift for a depth of twenty-five (25) feet from the excavated opening face. Debris is defined as any foreign material in this area which would impair proper placement of the retainer. Then the walls, roof and floor shall be scoured and cleaned for a depth of 25 feet into the drift tunnel by hydraulically jetting the area with fresh water. Jetting shall be accomplished with a 3/4" hose and 3/8" exit nozzle with a minimum water pressure of 75 psi. Any substitute used must be approved by the Project Officer prior to use.

4. PLACEMENT OF PLUG: The opening shall be sealed by use of Expendable Grout Retainers as specified in Section 4 of the Technical Provisions. Grout materials to be used are specified in Section 5, paragraph 3.3 of the Technical Provisions.

The slurry to be used in filling the retainers should be sprayed over the floor and lower three (3) feet of the walls in the area where the retainer is to be placed just prior to placement of the bottom retainer. This procedure should be repeated when installing subsequent retainers in the opening.

5. FINAL PLUGGING: When all work has been finished on the project, prior to demobilization the Contractor will place a cement plug approximately two (2) feet in length in each pipe protruding from the retainers. After the cement has set, the valves will be removed and remain the property of the Contractor.

6. MEASUREMENT AND PAYMENT:

6.1 General: The Contract prices for the various items of work and materials, as described in paragraphs 6.2 and 6.3, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work

6.2 Preparation of Opening: No measurement for purposes of payment for removal of debris from the drift or jetting of tunnel floor, walls and roof will be made; but payment for this work will be made at the contract lump sum price for "Preparation of Opening", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

6.3 Placement of Plug: The unit of measurement for placement of Expendable Grout Retainers will be the cubic foot of slurry placed around the retainer or in the retainer, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor.

SECTION 11

PLUGGING OPENING NO. 1

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the plugging of Opening No. 1.

2. EXCAVATION OF OPENING: The excavation will be done in accordance with Drawing No. 103-7 and the specifications in Section 3 of the Technical Provisions.

3. PREPARATION FOR SEALING: During the excavation work, dirt and rocks will be placed 15 to 20 feet back in the mine opening to provide a bulkhead for placement of grout slurry. The material may be deposited or pushed into place.

4. SEALING OF OPENING: The opening will be sealed by filling the front portion of the mine with a grouting slurry. In order to completely fill the opening area, a small dike will be built across the mine opening as shown on Drawing No. 103-7. This will allow the level of the grout to rise sufficiently to effect a seal on all sides of the opening. Grouting slurry "C" will be mixed in accordance with Section 5, paragraph 4.2 of the Technical Provisions, mixing continuously or in batches of not less than one (1) cubic yard, and then placed in the mine opening behind the dike. Placement will continue until the level of the grout reaches the top edge of the dike.

5. MEASUREMENT AND PAYMENT:

5.1 General: The Contract prices for the various items of work and materials, as described in paragraphs 5.2 and 5.3, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

5.2 Fill: The unit of measurement for fill will be the cubic yard of material placed in the mine opening.

5.3 Placement of Grout Slurry: The unit of measurement for placement of grouting slurry will be the cubic foot, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor.

SECTION 12

DISPOSAL OF BITUMINOUS DEBRIS (GOB)

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for transporting, blending and mixing of gob into a slurry form for disposal into Mine No. 12-007A.

2. MIXING: Gob from the designated area on Drawing No. 103-1 will be screened through a 1" screen and then mixed with water in a continuous manner, or by another method approved by the Project Officer, to form a slurry which will transport the gob.

3. PLACEMENT: The gob slurry will be placed into Opening No. 4 or 5, as selected by the Contractor, after sealing operations have been partially completed by placement of the bottom retainer in the opening. The placement of the gob slurry in the mine will be accomplished by pumping the slurry into the mine as it is mixed. The pump must be of a type and capacity to satisfactorily move the gob slurry into the mine. A minimum size of 4" pipe or hose laid from the site of the pumping into the mine opening by the Contractor will be used to place the slurry. Placement of the gob slurry will continue until 400 cubic yards of gob have been placed into the mine opening, unless directed otherwise by the Project Officer.

4. WATER: The Contractor will be responsible for providing water necessary for transporting the gob. Water of a quality not lower than

that already present in the mine, and which does not contain objectionable material, may be used in this application

5. MEASUREMENT AND PAYMENT: The unit of measurement for the disposal of gob will be the cubic yard of gob, as distinguished from gob slurry, placed into the mine. This payment will constitute full compensation for furnishing all equipment, labor and material incidental to this work.

SECTION 13

PLUGGING OPENING NO. 9

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the plugging of Opening No. 9 as shown on Drawing No. 103-2 and specified herein.

2. EXCAVATION OF OPENING: The excavation of the opening will be done in accordance with Section 3 of the Technical Provisions. However, the following procedures will take precedence over those specified should there be any conflict. The Contractor will first make the initial cuts as specified in order to determine if a tunnel exists at that location, or if water is draining through a fault or fracture in the formation. Before this operation, Contractor shall provide for impoundment of water through construction of a dike as shown on the Contract Drawing.

If initial excavation exposes a tunnel or large opening, further excavation will not be necessary. Should a tunnel not be found, sufficient excavation will be accomplished at the direction of the Project Officer to permit the sealing operation.

3. PREPARATION OF OPENING: After the opening has been excavated as directed, it will be prepared for sealing by grouting method. Grouting pipes will be placed in the opening at two (2) foot intervals across the width of the opening. Crushed limestone or chat, graded to pass a 3/4" screen and be retained on a 1/4" screen, will be dumped on the grout pipes in the opening. At each rise of two (2) feet in the pile

of rock chips, another row of grout pipes will be placed so that they are located between grout pipes in the previous row. This procedure will continue until the opening is filled to a depth of ten (10) feet with rock, or until a maximum of thirty (30) cubic yards have been placed.

Grouting pipes will be 1" Standard Schedule 40 pipe conforming to Grade B of "Specifications for Welded and Seamless Steel Pipe" ASTM-A 53.

4. SEALING OF OPENING: The opening will be sealed by pumping grouting slurry "B", mixed according to specifications set forth in Section 5, paragraph 4.1 of the Technical Provisions, into the bulkhead of graded rock. Grouting will begin with the upper row of pipes and progress toward the bottom until bulkhead is thoroughly penetrated, or until directed otherwise by the Project Officer. Pipes shall be left full of grouting materials.

5. MEASUREMENT AND PAYMENT:

5.1 General: The Contract prices for the various items of work and materials, as described in paragraphs 5.2 through 5.4, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

5.2 Preparation of Opening: The unit of measurement for preparation of opening will be the cubic yard of material placed in the opening.

5.3 Connections: The unit of measurement for connections will be the number of connections made on grouting pipes.

5.4 Grouting Materials: The unit of measurement for placement of grouting material will be the cubic foot of slurry placed, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor.

SECTION 14

MONITORING AND SAMPLING

1. SCOPE: This section covers all operations in connection with monitoring the flow of water from the specified mine openings and sampling of water to be accomplished by the Contractor.

2. MONITORING: The flow of water issuing from each mine site opening specified herein shall be measured prior to plugging the opening. Any flow remaining in the vicinity of the plugged opening shall be measured following the remedial work. These measurements shall be obtained by the Contractor and included in his daily work report to the Project Officer on days when measurements are taken:

3. SAMPLING: Samples of mine water discharge, impounded mine water and surface water flows in the stripped areas of the work shall be obtained by the Contractor. Samples shall be obtained prior to initiation of work, prior to sealing of opening and after sealing of opening, if leakage occurs. Samples shall be furnished to FWPCA laboratory at Wheeling, West Virginia as directed by the Project Officer.

4. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for monitoring and sampling will be made, but payment for this work will be made at the contract lump sum price for "Monitoring and Sampling", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

U.S. DEPARTMENT OF THE INTERIOR
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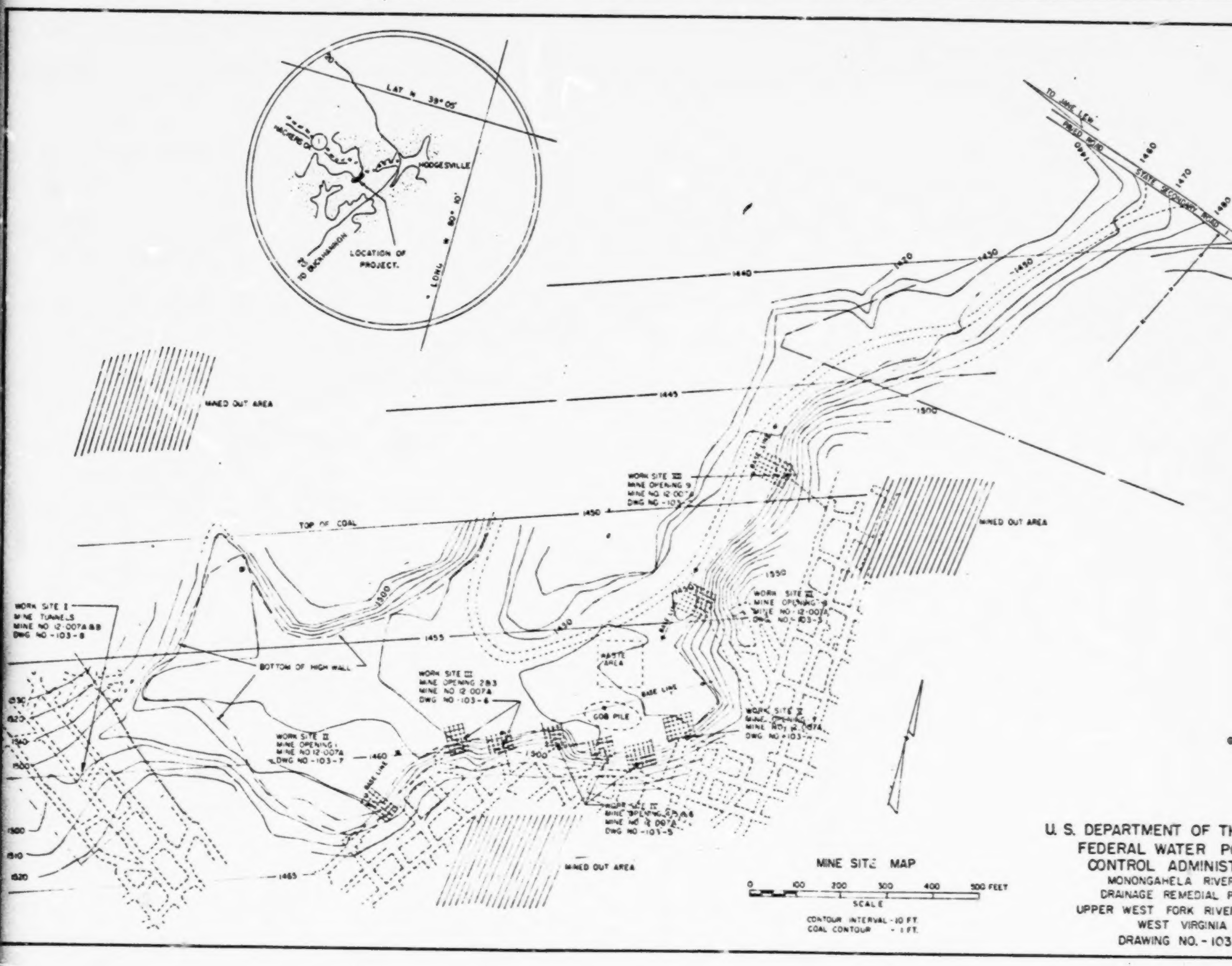
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA

PLANS FOR REMEDIAL CONSTRUCTION
ON
MINE NO. 12-007A

DRAWINGS

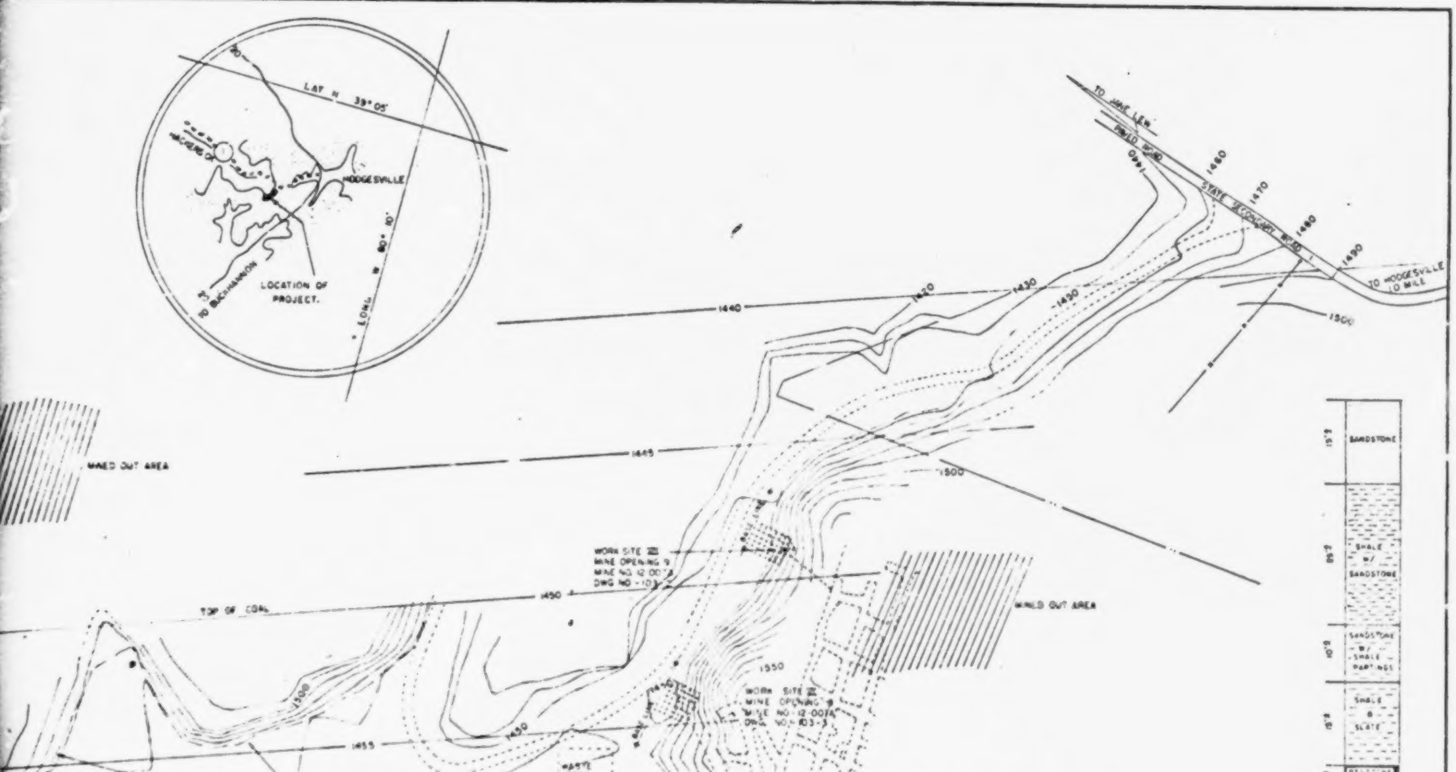
TITLE	DRAWING NO.
VICINITY AND MINE SITE MAP	103-1
WORK SITE VII - OPENING NO. 9	103-2
WORK SITE VI-OPENING NO. 8	103-3
WORK SITE V-OPENING NO. 7	103-4
WORK SITE IV-OPENING NO. 4,5 & 6	103-5
WORK SITE III-OPENING NO. 2 & 3	103-6
WORK SITE II-OPENING NO. 1	103-7
WORK SITE I-MINE TUNNELS	103-8
WORK SITE I-MINE TUNNELS-ALTERNATE	103-9
MINE PLUG-EXPENDABLE GROUT RETAINER	101-6
DIMENSIONAL SPECIFICATIONS-EXPENDABLE GROUT RETAINER	101-7
ASSEMBLY-EXPENDABLE GROUT RETAINER	101-8


LAT N 39°05'
HODGESVILLE
HACKERS CR
LOCATION OF PROJECT.
TO BUCKHANNON
LONG W 80°10'
TO JANE LEW
PAVED ROAD
STATE SECONDARY ROAD
1480
1470
1460
1440
1420
1430
1450
1445
1500
MINED OUT AREA
WORK SITE III
MINE OPENING 9
MINE NO 12 007A
DWG NO -103
TOP OF COAL
1450
MINED OUT AREA
1550
WORK SITE III
MINE OPENING 8
MINE NO 12-007A
DWG NO -103-3
WORK SITE I
MINE TUNNELS
MINE NO 12-007A&B
DWG NO -103-8
1300
1455
1430
BOTTOM OF HIGH WALL
WASTE AREA
BASE LINE
WORK SITE II
MINE OPENING 2&3
MINE NO 12 007A
DWG NO -103-6
GOB PILE
WORK SITE II
MINE OPENING 7
MINE NO 12 007A
DWG NO -103-4
WORK SITE II
MINE OPENING 1
MINE NO 12-007A
DWG NO -103-7
1460
1300
BASE LINE
WORK SITE II
MINE OPENING 4,5 & 6
MINE NO 12 007A
DWG NO -103-5
1530
1520
1540
1500
1500
1510
1520
1465
MINED OUT AREA
0
100
200
300
400
500 FEET
SCALE

MINE SITE MAP

CONTOUR INTERVAL - 10 FT.
COAL CONTOUR - 1 FT.

U. S. DEPARTMENT OF TH
FEDERAL WATER P
CONTROL ADMINIST
MONONGAHELA RIVER
DRAINAGE REMEDIAL P
UPPER WEST FORK RIVER
WEST VIRGINIA
DRAWING NO. - 103


LAT N 39° 05'
LONG W 80° 10'
HODGESVILLE
TO BUCKHANNON
LOCATION OF PROJECT.
TO JANE LEW
PAVED ROAD
STATE SECONDARY ROAD
TO HODGESVILLE 1.0 MILE
1420
1430
1440
1445
1450
1455
1460
1465
1470
1480
1490
1500
1550
MINED OUT AREA
TOP OF COAL
BOTTOM OF HIGH WALL
WORK SITE III
MINE OPENING 9
MINE NO 12 007A
DWG NO -103
WORK SITE III
MINE OPENING 8
MINE NO 12 007A
DWG NO - 103-3
WORK SITE III
MINE OPENING 2&3
MINE NO 12 007A
DWG NO -103-6
WORK SITE II
MINE OPENING 1
MINE NO 12 007B
DWG NO -103-7
WORK SITE II
MINE OPENING 7
MINE NO 12 007A
DWG NO -103-4
WORK SITE II
MINE OPENING 4,5 & 6
MINE NO 12 007A
DWG NO -103-5
WASTE AREA
GOB PILE
BASE LINE
SANDSTONE
SHALE W/ SANDSTONE
SANDSTONE W/ SHALE PARTINGS
SHALE & SLATE
POSSIBLE S S
GEOLOGIC SECTION
MINE NO 12-007A
0
100
200
300
400
500 FEET
SCALE
CONTOUR INTERVAL - 10 FT
COAL CONTOUR - 1 FT.

MINE SITE MAP

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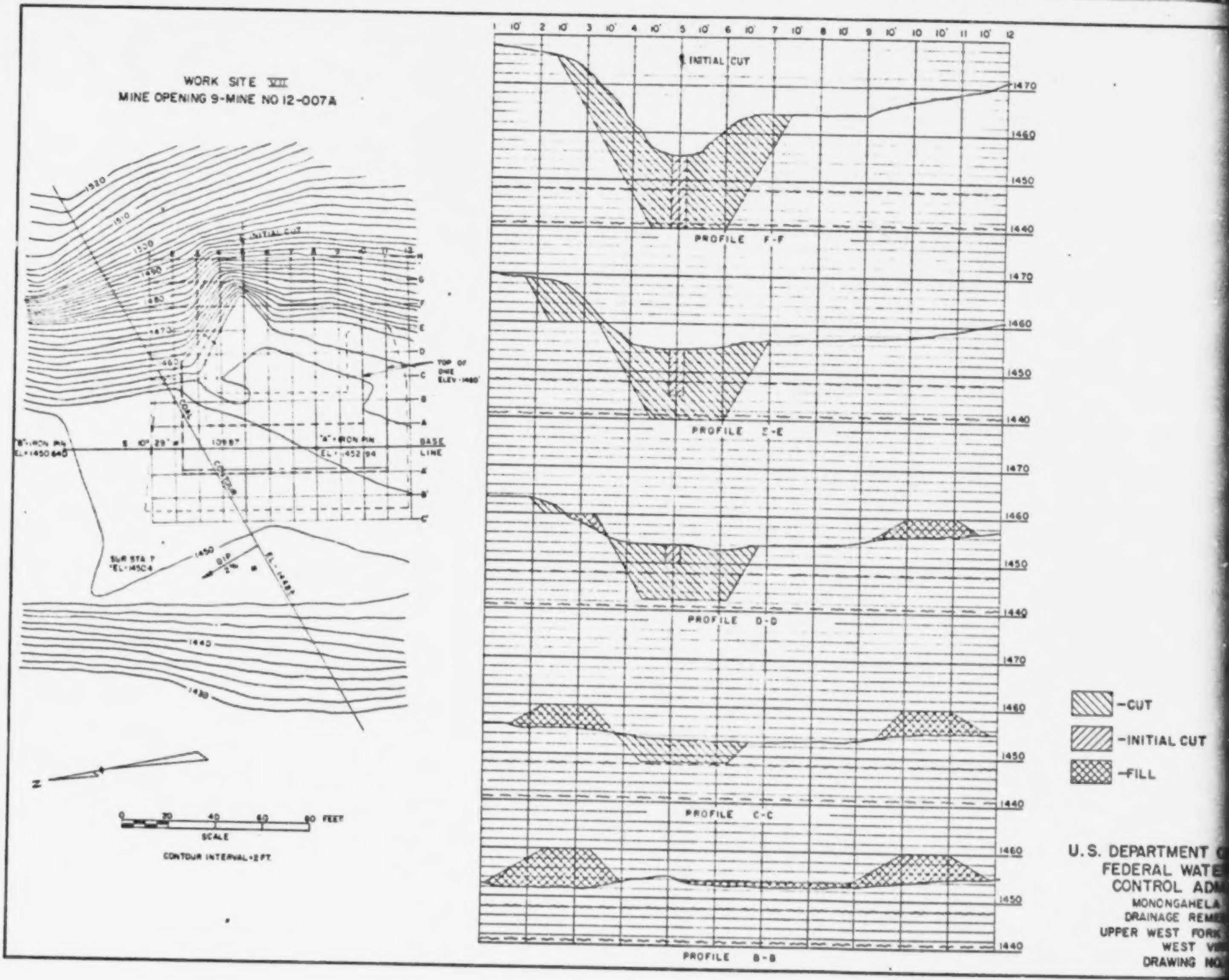
WEST VIRGINIA
DRAWING NO. - 103-1

WORK SITE VII
MINE OPENING 9-MINE NO 12-007A


1520
1510
1500
1490
1480
1473
1462
INITIAL CUT
TOP OF DIKE ELEV.·1460'
"B"·IRON PIN EL.·1450.640
S 10° 29' W
109.87'
"A"·IRON PIN EL.·1452.94
BASE LINE
COAL CONTOUR
SUR STA 7 EL.·1450.4
1450
DIP 2%
EL.·1465
1440
1430
N
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL·2 FT.
A B C D E F G H
A' B' C'
1 10' 2 10' 3 10' 4 10' 5 10' 6 10' 7 10' 8 10' 9 10' 10 10' 11 10' 12
℄ INITIAL CUT
1470
1460
1450
1440
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
▧ -CUT
▨ -INITIAL CUT
▦ -FILL

U.S. DEPARTMENT
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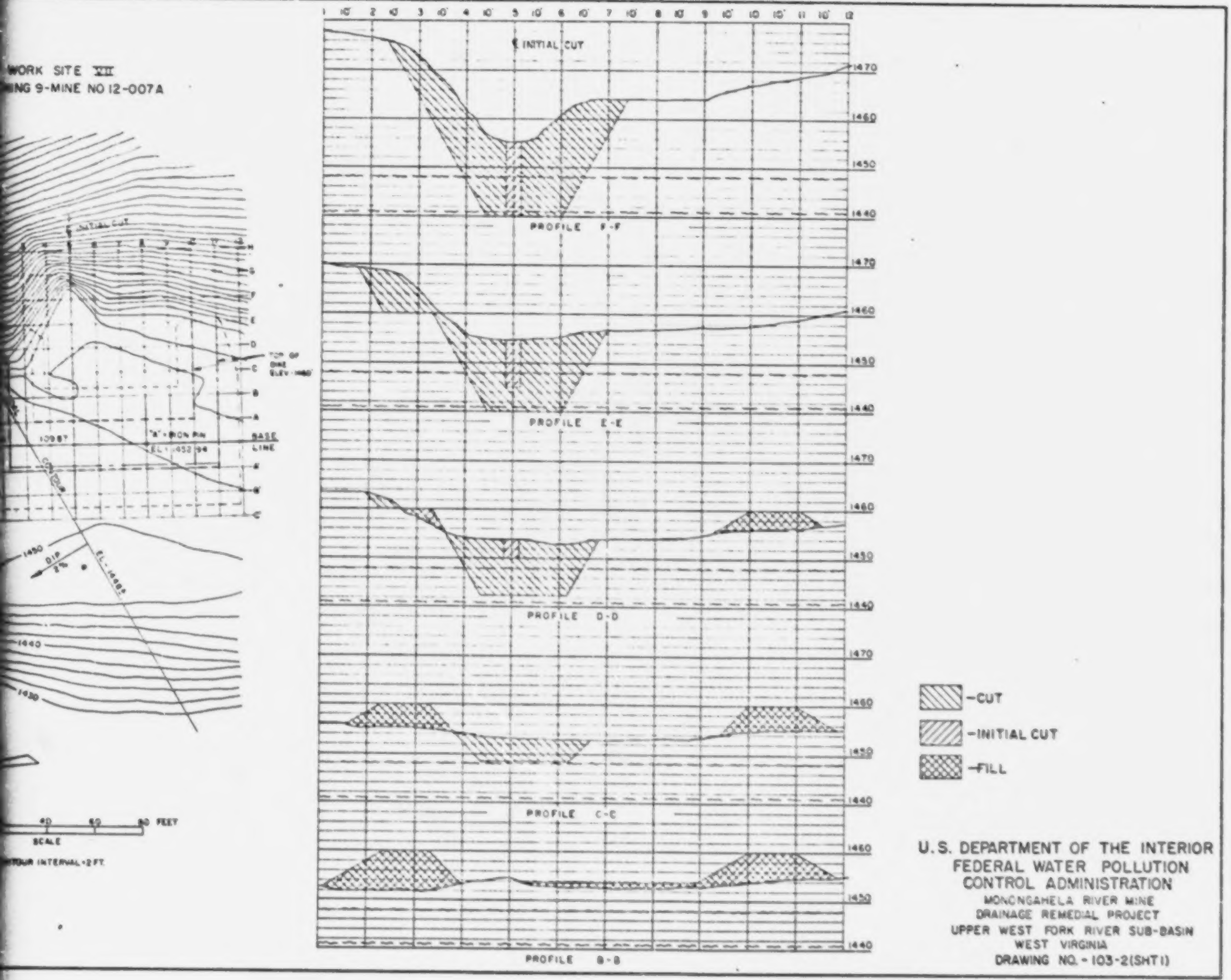
UPPER WEST FORK
WEST V
DRAWING NO

WORK SITE XII
NG 9-MINE NO 12-007A



INITIAL CUT
TOP OF DIKE ELEV. 1460'
"A" - IRON PIN EL. 1452.94
BASE LINE
1450
DIP 2%
EL. 1448±
1440
1430
40
60
80 FEET
SCALE
CONTOUR INTERVAL - 2 FT.
H
G
F
E
D
C
B
A
A'
B'
C'
1 10' 2 10' 3 10' 4 10' 5 10' 6 10' 7 10' 8 10' 9 10' 10 10' 11 10' 12
℄ INITIAL CUT
1470
1460
1450
1440
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
▧ -CUT
▨ -INITIAL CUT
▩ -FILL

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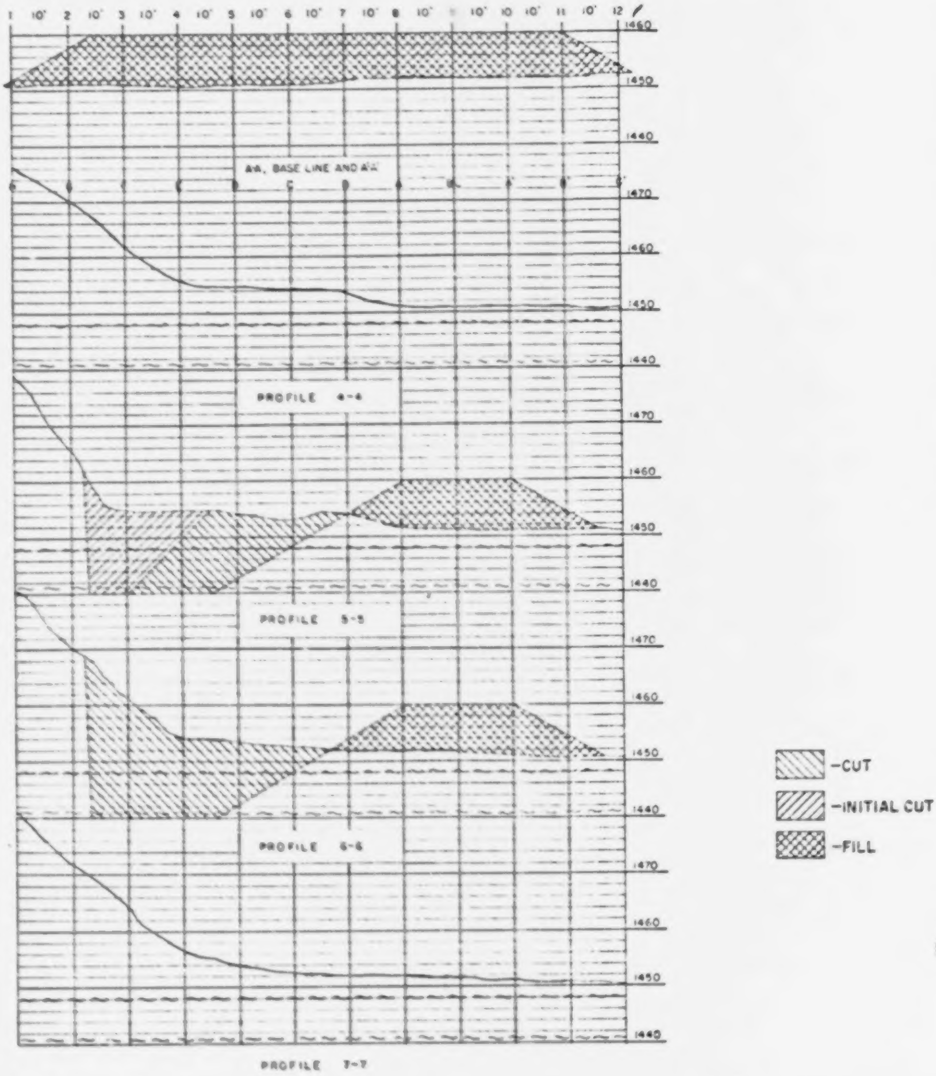
WEST VIRGINIA
DRAWING NO. - 103-2(SHT 1)


1
10'
2
10'
3
10'
4
10'
5
10'
6
10'
7
10'
8
10'
9
10'
10
10'
11
10'
12
1460
1450
1440
A-A, BASE LINE AND A'-A'
1470
1460
1450
1440
PROFILE 4-4
1470
1460
1450
1440
PROFILE 5-5
1470
1460
1450
1440
PROFILE 6-6
1470
1460
1450
1440
PROFILE 7-7
-CUT
-INITIAL CUT
-FILL

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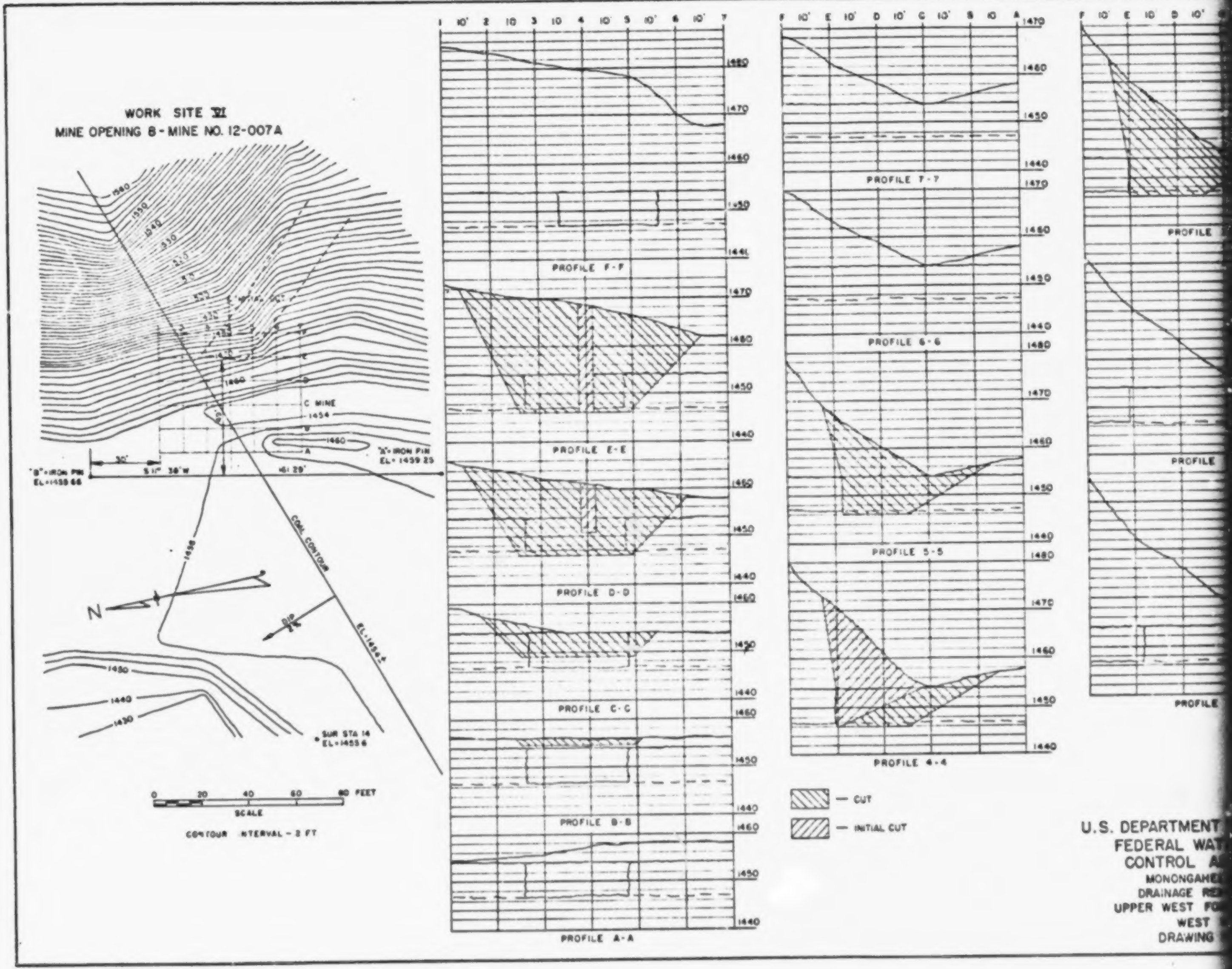
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-2(SHT 2)


WORK SITE VI
MINE OPENING 8 - MINE NO. 12-007A

1480
1450
1440
1430
1420
1410
1400
1470
1460
1454
1456
C MINE
A
B
C
D
E
F
INITIAL CUT
"A" = IRON PIN
EL = 1459.25
"B" = IRON PIN
EL = 1455.66
30'
S 11° 38' W
161.29'
COAL CONTOUR
EL = 1456±
DIP 2%
N
SUR STA 14
EL = 1455.6
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL - 2 FT
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE
— CUT
— INITIAL CUT
U.S. DEPARTMENT
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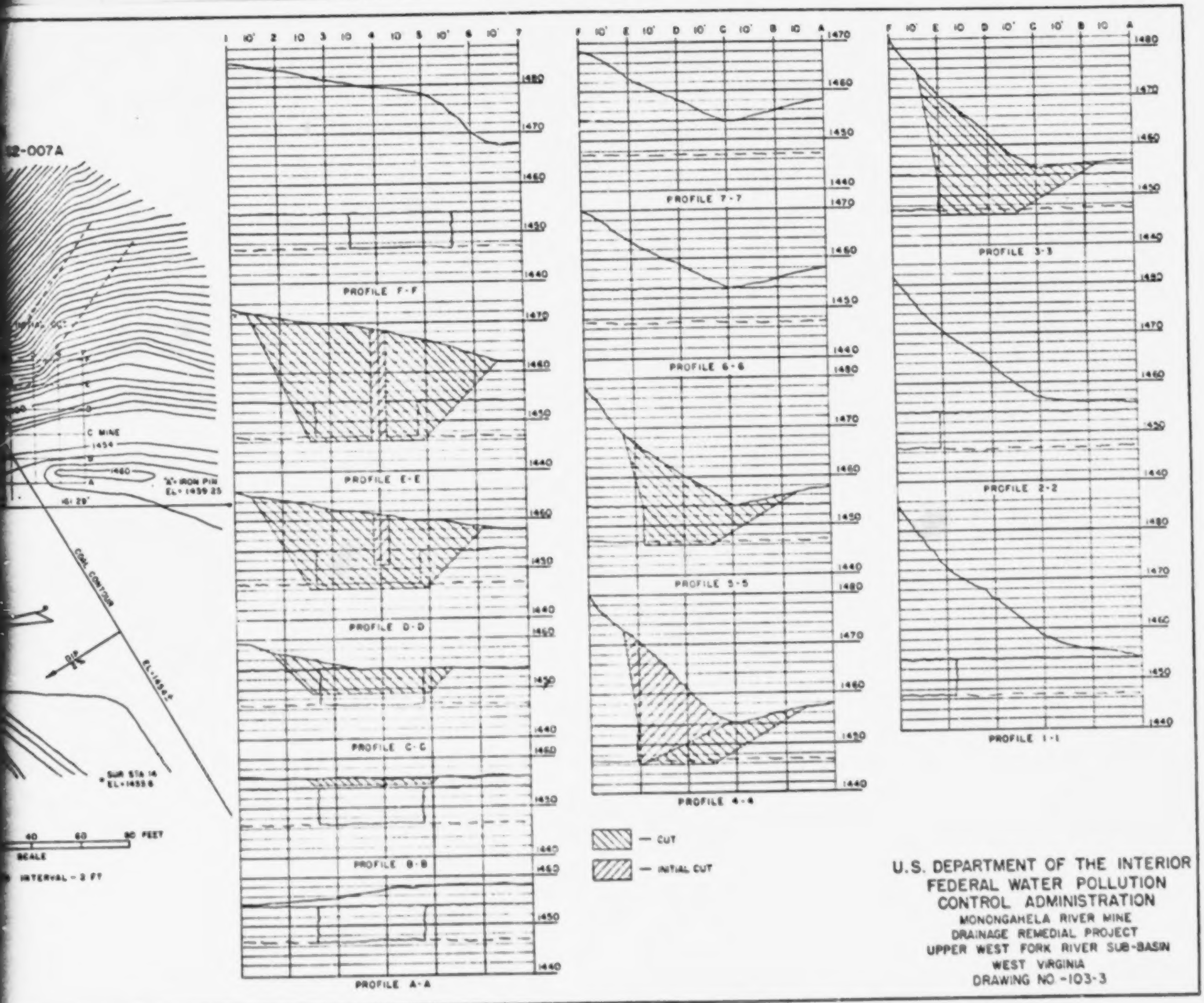
MONONGAHE
DRAINAGE RE
UPPER WEST FO
WEST
DRAWING


2-007A
C MINE
1454
1460
"A" IRON PIN
EL= 1459.25
16' 29'
COAL CONTOUR
DIP
EL=1456±
SUR STA 14
EL=1455.6
40
60
80 FEET
SCALE
INTERVAL - 2 FT
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1
1440
1450
1460
1470
1480
▧ — CUT
▨ — INITIAL CUT

U.S. DEPARTMENT OF THE INTERIOR
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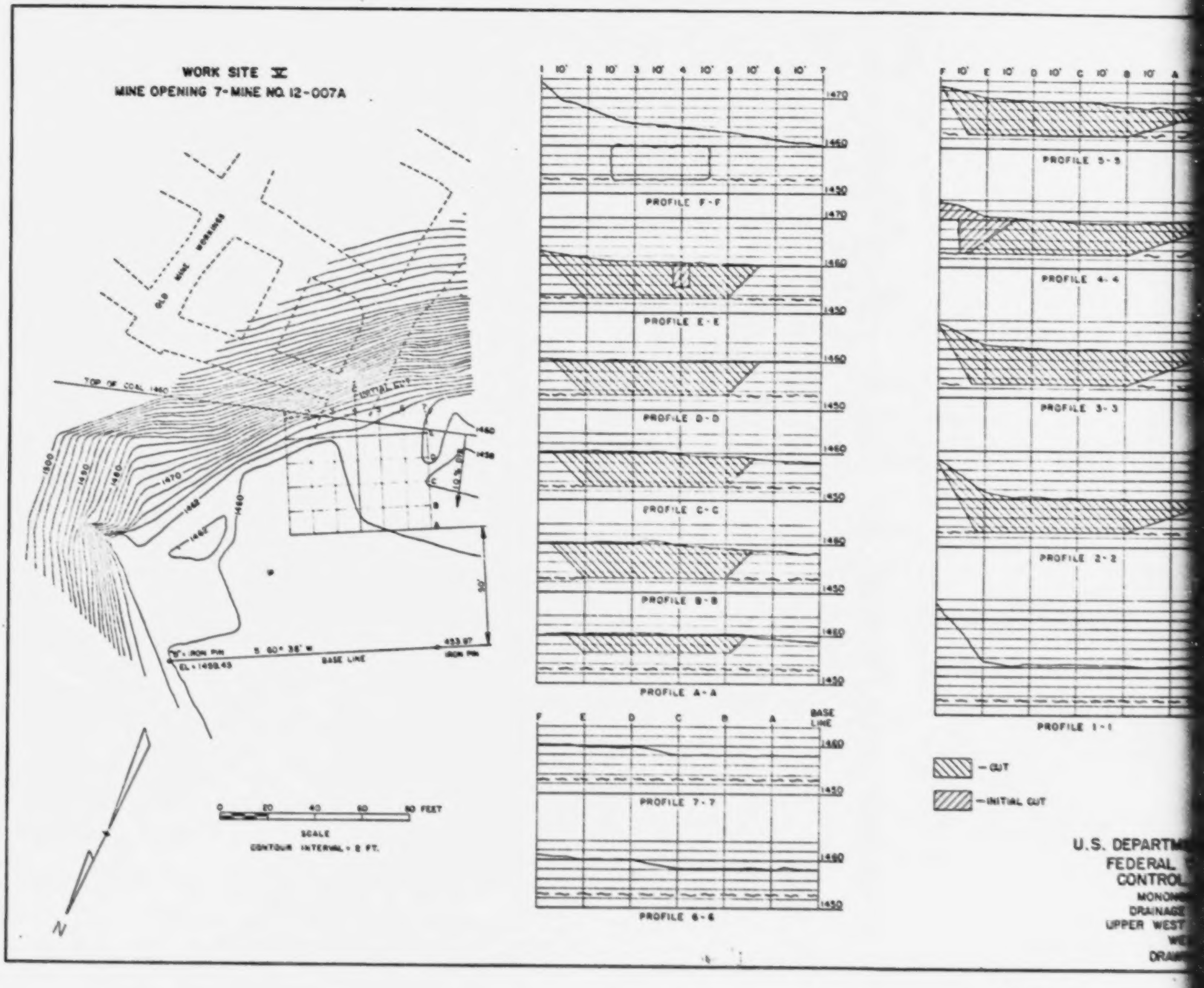
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-103-3


WORK SITE V
MINE OPENING 7-MINE NO. 12-007A
OLD MINE WORKINGS
TOP OF COAL 1460
INITIAL CUT
1500
1490
1480
1470
1462
1460
1458
"B" IRON PIN
EL = 1458.43
S 60° 38' W
BASE LINE
453.97
IRON PIN
50'
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
N
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1
BASE LINE
1470
1460
1450
▧ – CUT
▨ – INITIAL CUT
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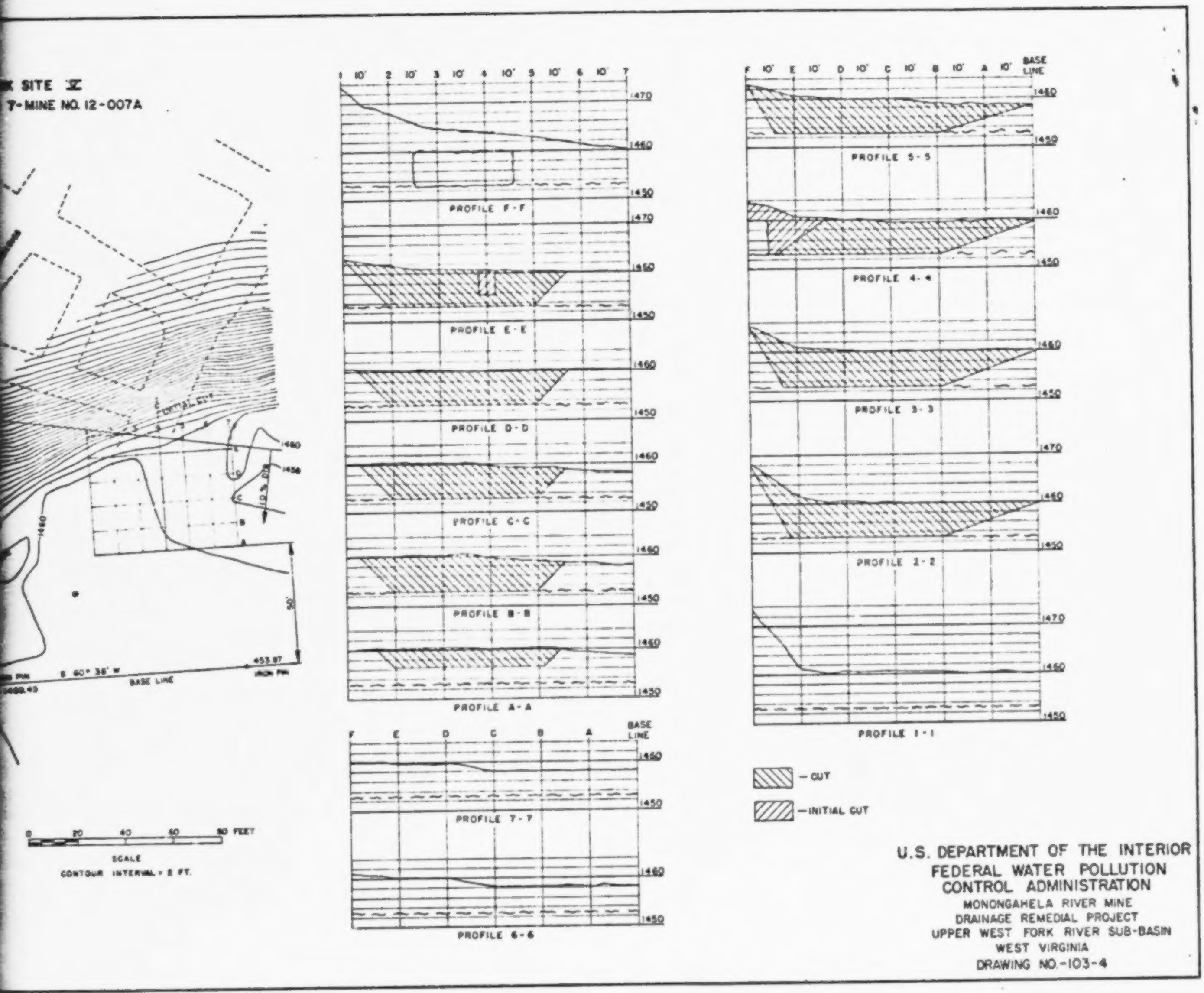
K SITE V
7-MINE NO. 12-007A
INITIAL CUT
1460
1456
10% GR.
S 60° 36' W
BASE LINE
IRON PIN
453.87
90'
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1
BASE LINE
1470
1460
1450
▨ – CUT
▨ – INITIAL CUT

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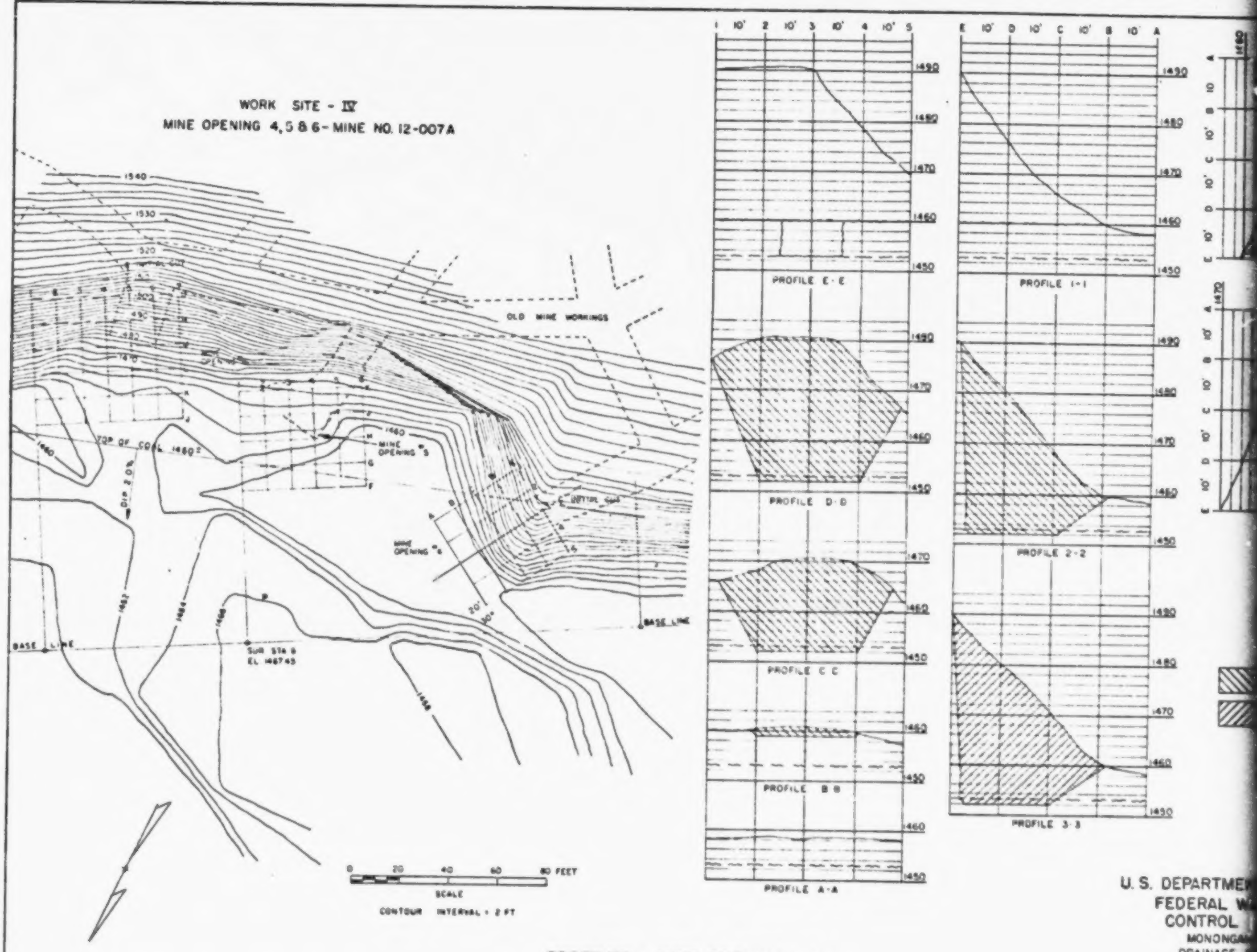
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-103-4



WORK SITE - IV
MINE OPENING 4,5 & 6 - MINE NO. 12-007A
1540
1530
1520
OLD MINE WORKINGS
TOP OF COAL 1460±
DIP 2.0%
1460
MINE OPENING 5
MINE OPENING 6
BASE LINE
SUR STA 9 EL 1467.43
1462
1464
1466
1468
BASE LINE
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL = 2 FT
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 1-1
PROFILE 2-2
PROFILE 3-3
1490
1480
1470
1460
1450

PROFILES - MINE OPENING NO. 4

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CONTROL
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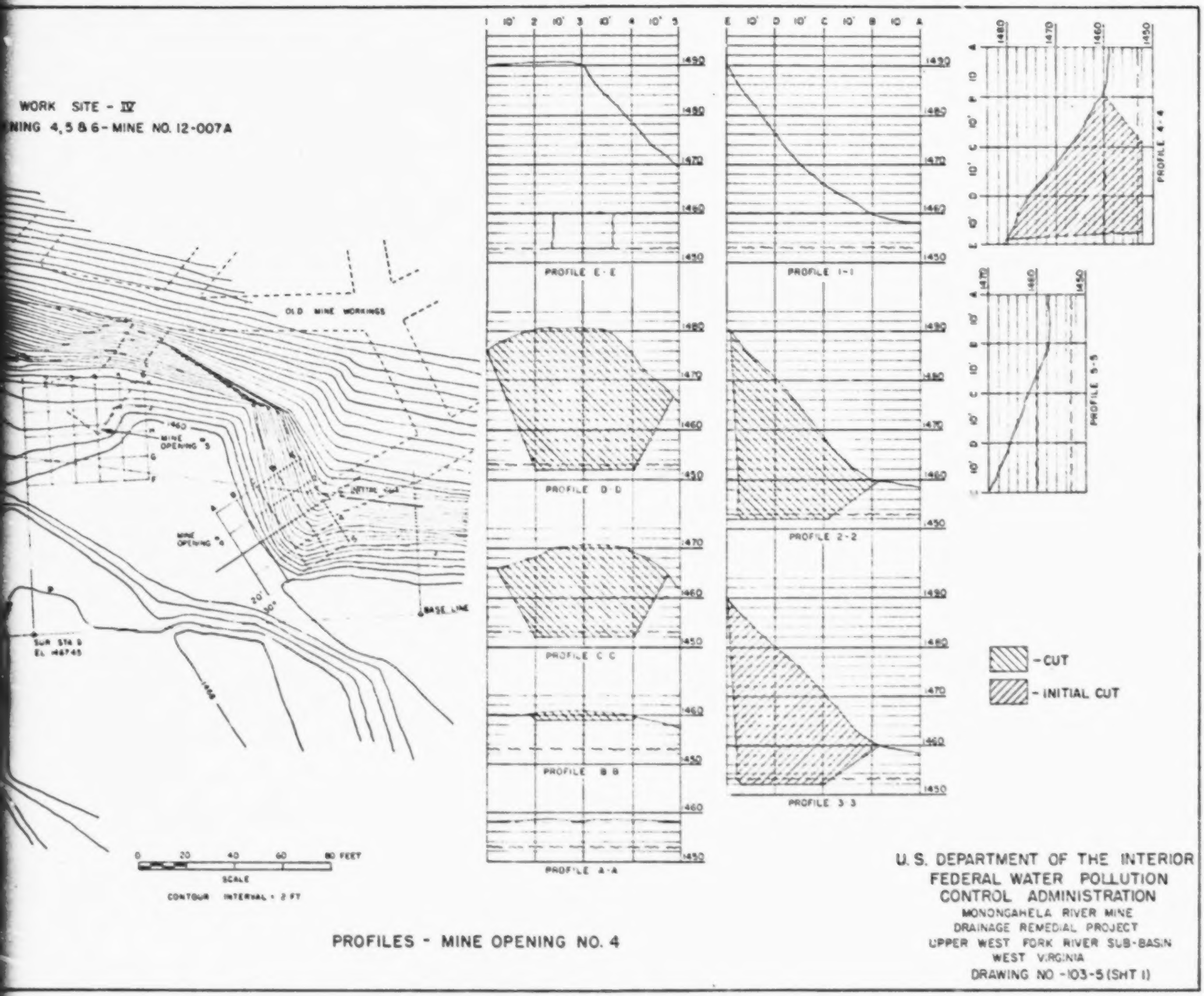
UPPER WEST
WEST
DRAWIN


WORK SITE - IV
NING 4, 5 & 6 - MINE NO. 12-007A
OLD MINE WORKINGS
MINE OPENING 5
MINE OPENING 6
BASE LINE
SUR STA 9 EL 1467.45
1460
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL = 2 FT
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 1-1
PROFILE 2-2
PROFILE 3-3
PROFILE 4-4
PROFILE 5-5
1 10' 2 10' 3 10' 4 10' 5
E 10' D 10' C 10' B 10' A
1490
1480
1470
1460
1450
▧ - CUT
▨ - INITIAL CUT

PROFILES - MINE OPENING NO. 4

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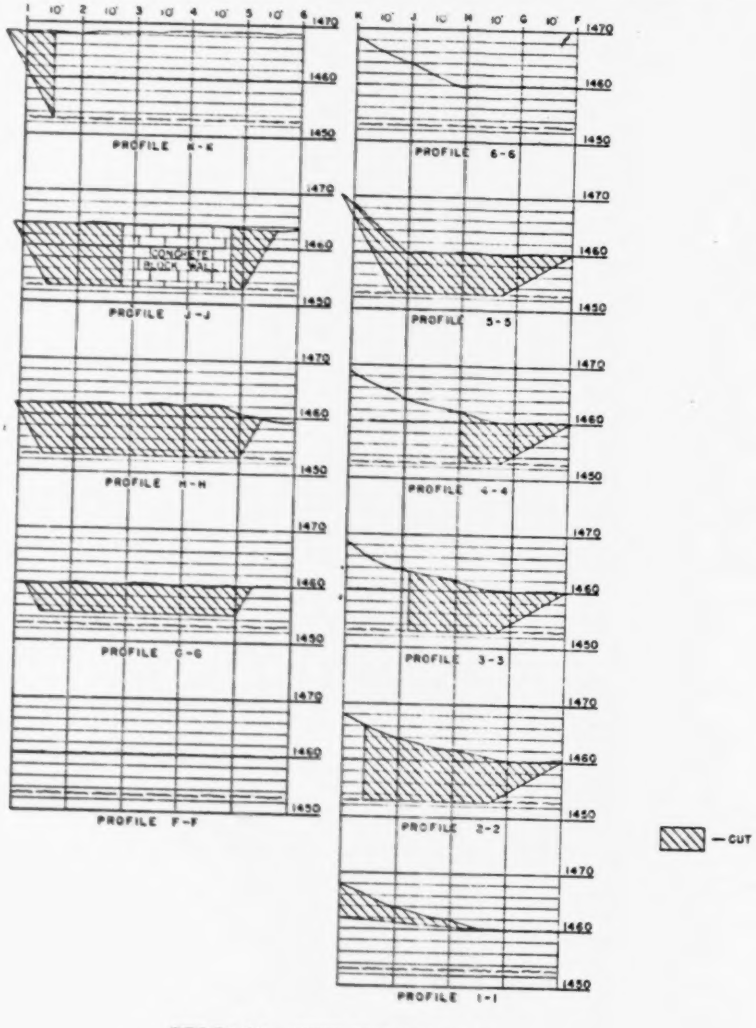
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO -103-5 (SHT 1)


1 10' 2 10' 3 10' 4 10' 5 10' 6
K 10' J 10' H 10' G 10' F
1470
1460
1450
PROFILE K-K
PROFILE J-J
CONCRETE BLOCK WALL
PROFILE H-H
PROFILE G-G
PROFILE F-F
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1
▨ — CUT

PROFILES - MINE OPENING NO. 5

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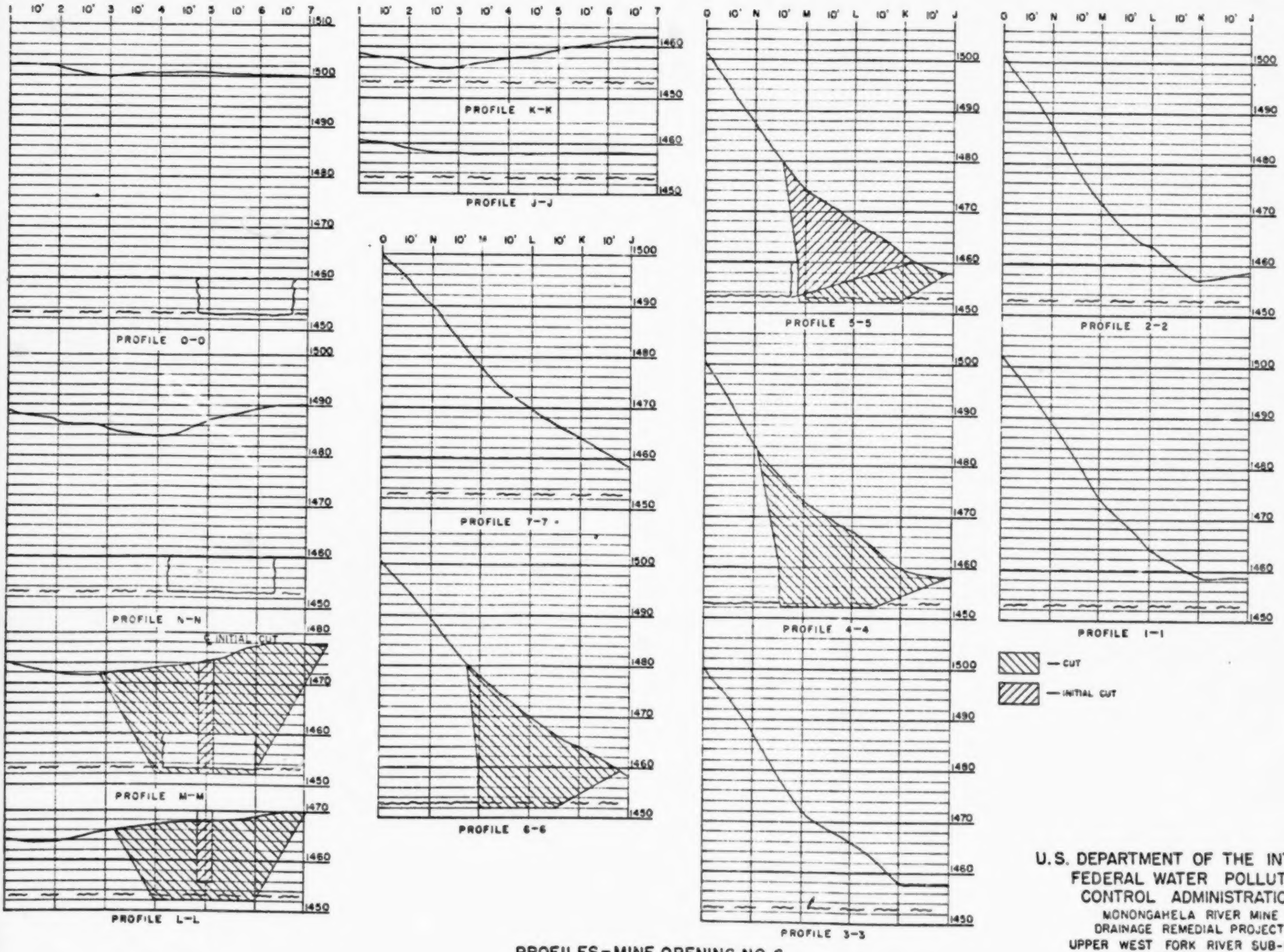
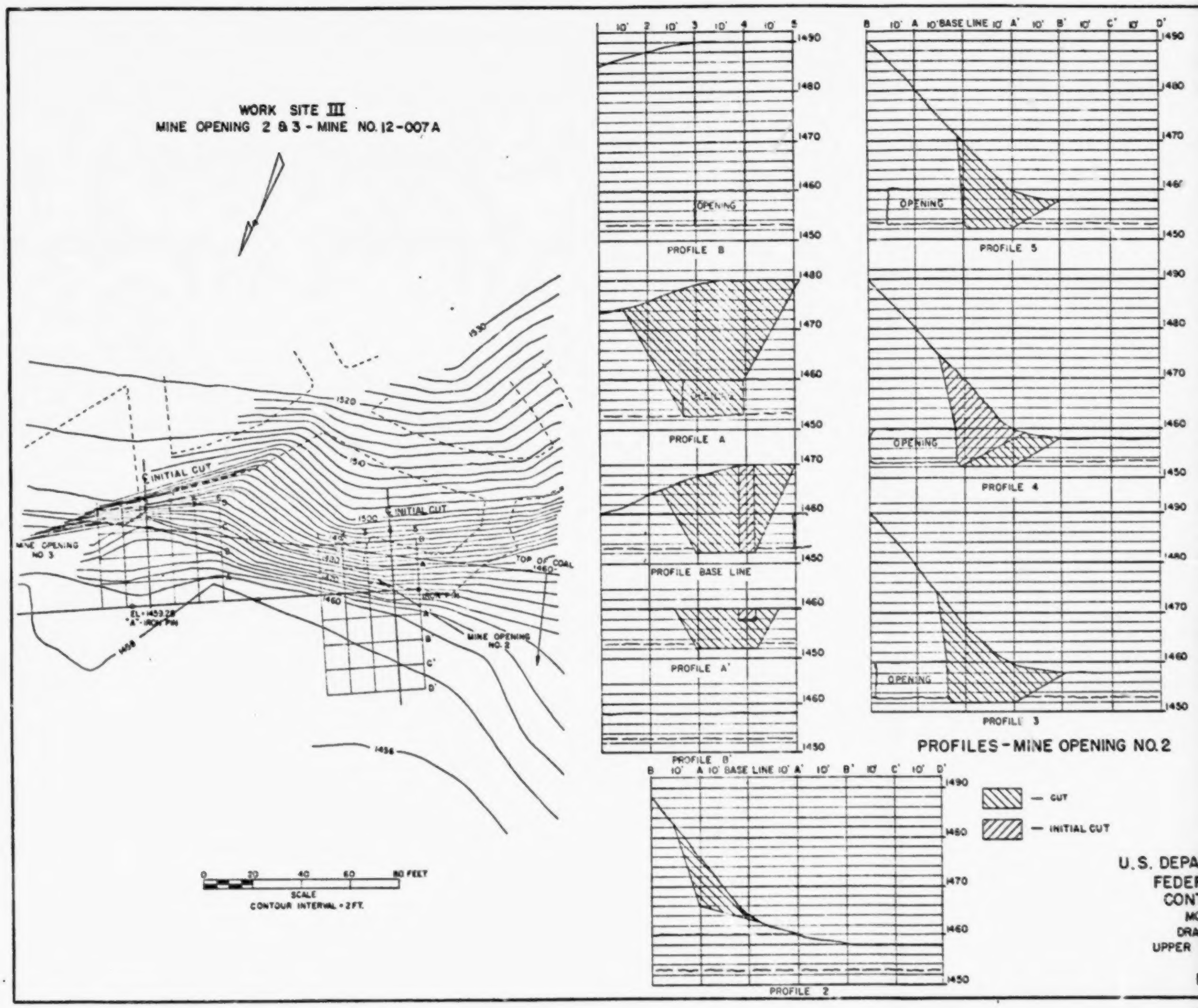
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-103-5(SHT 2)


PROFILE O-O
PROFILE N-N
PROFILE M-M
PROFILE L-L
℄ INITIAL CUT
PROFILE K-K
PROFILE J-J
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1
1 10' 2 10' 3 10' 4 10' 5 10' 6 10' 7
O 10' N 10' M 10' L 10' K 10' J
1510
1500
1490
1480
1470
1460
1450
▨ — CUT
▨ — INITIAL CUT

PROFILES-MINE OPENING NO 6

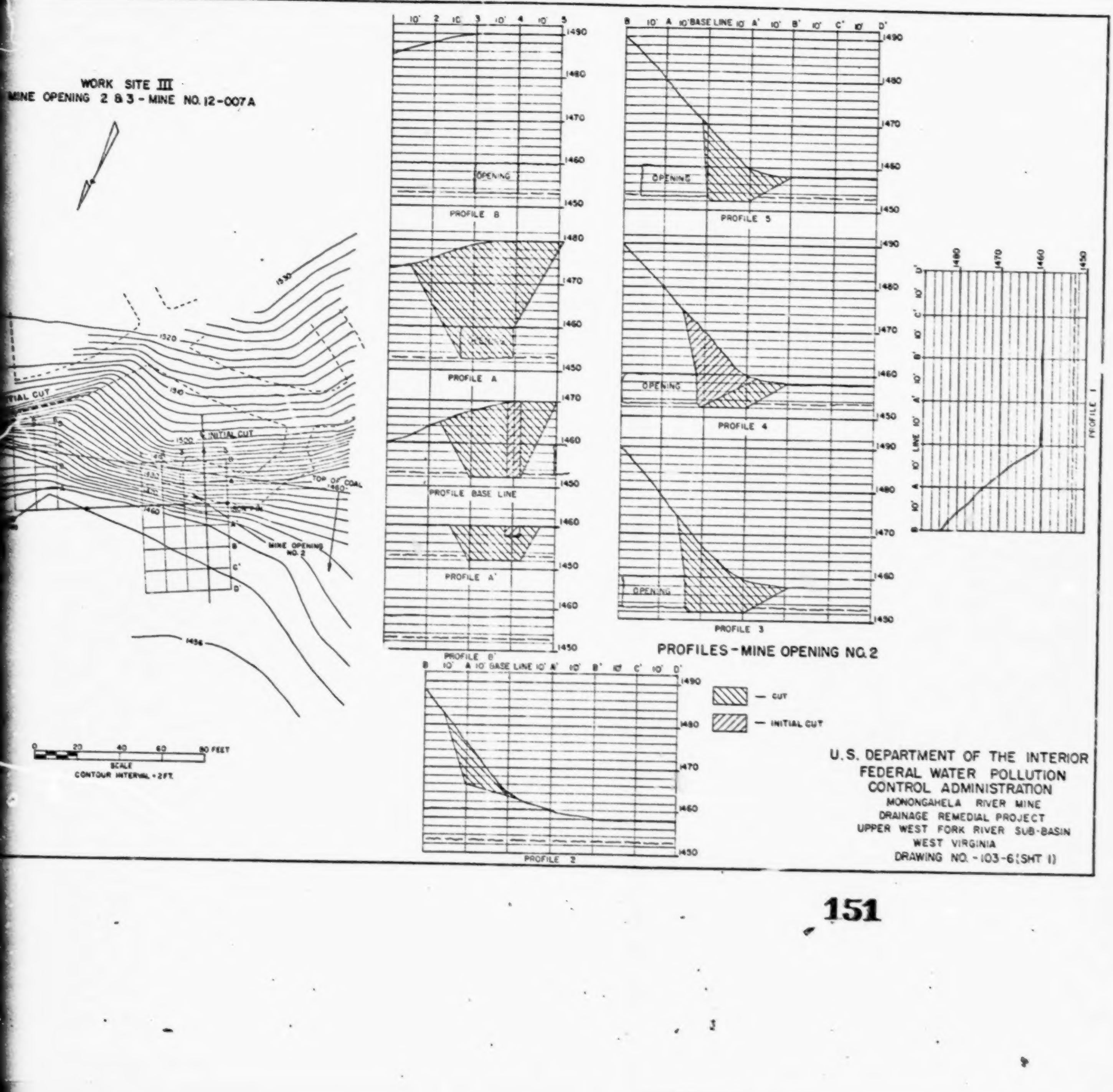
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO - 103-5 (SHT 3)



WORK SITE III
MINE OPENING 2 & 3 - MINE NO. 12-007A

PROFILES - MINE OPENING NO. 2

INITIAL CUT
INITIAL CUT
MINE OPENING NO 3
MINE OPENING NO. 2
TOP OF COAL
EL = 1459.28 "A" - IRON PIN
IRON PIN
1520
1510
1500
1460
1456
1458
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
PROFILE B
PROFILE A
PROFILE BASE LINE
PROFILE A'
PROFILE B'
PROFILE 2
PROFILE 3
PROFILE 4
PROFILE 5
OPENING
B 10' A 10' BASE LINE 10' A' 10' B' 10' C' 10' D'
1490
1480
1470
1460
1450
— CUT
— INITIAL CUT
U.S. DEPA
FEDE
CONT
MO
DRA
UPPER



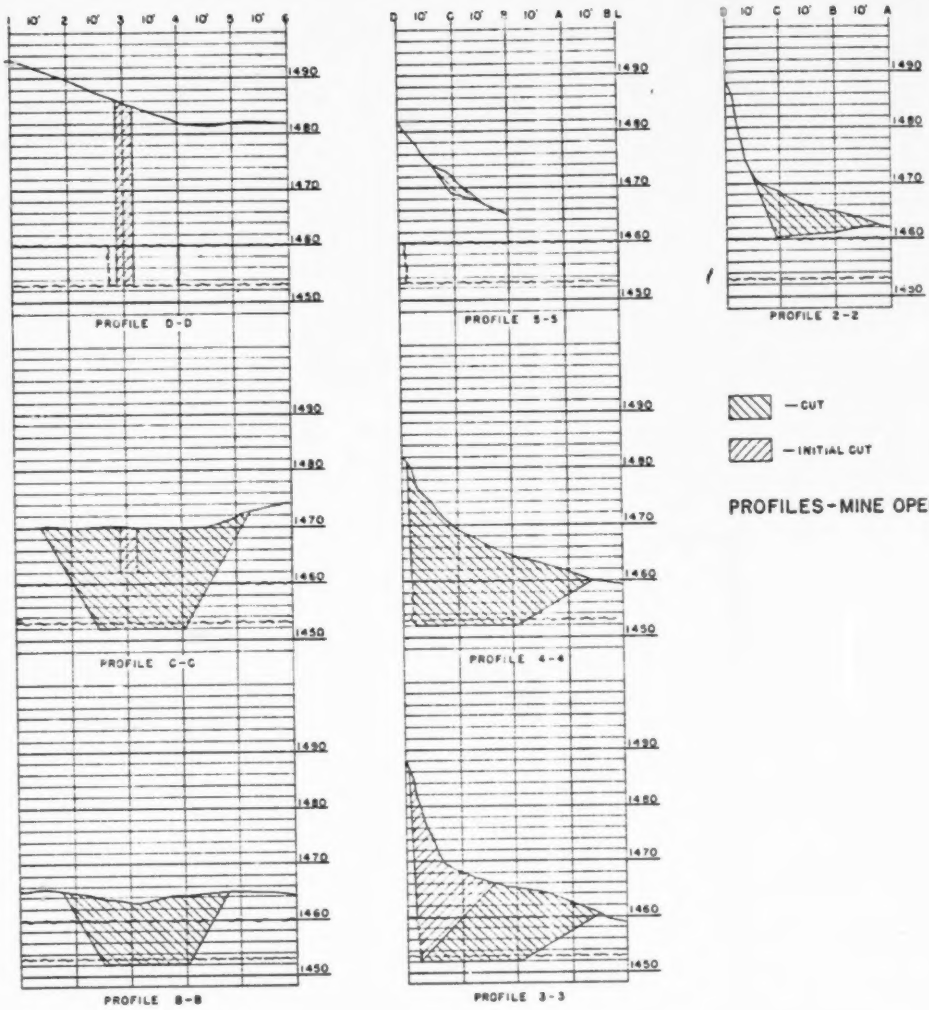
1530
1520
1510
1500
1490
1480
1470
1460
1456
INITIAL CUT
TOP OF COAL 1460
MINE OPENING NO. 2
A
A'
B
B'
C'
D'
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
OPENING
PROFILE B
PROFILE A
PROFILE BASE LINE
PROFILE A'
PROFILE B'
PROFILE 5
PROFILE 4
PROFILE 3
PROFILE 2
PROFILE 1
B
10'
A
10' BASE LINE 10'
A'
10'
B'
10'
C'
10'
D'
2
3
4
5
1490
1480
1470
1460
1450

WORK SITE III
MINE OPENING 2 & 3 - MINE NO. 12-007A

PROFILES - MINE OPENING NO. 2

▧ — CUT
▨ — INITIAL CUT

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-6 (SHT 1)


1 10' 2 10' 3 10' 4 10' 5 10' 6
D 10' C 10' B 10' A 10' BL
D 10' C 10' B 10' A
1490
1480
1470
1460
1450
PROFILE D-D
PROFILE 5-5
PROFILE 2-2
PROFILE C-C
PROFILE 4-4
PROFILE B-B
PROFILE 3-3

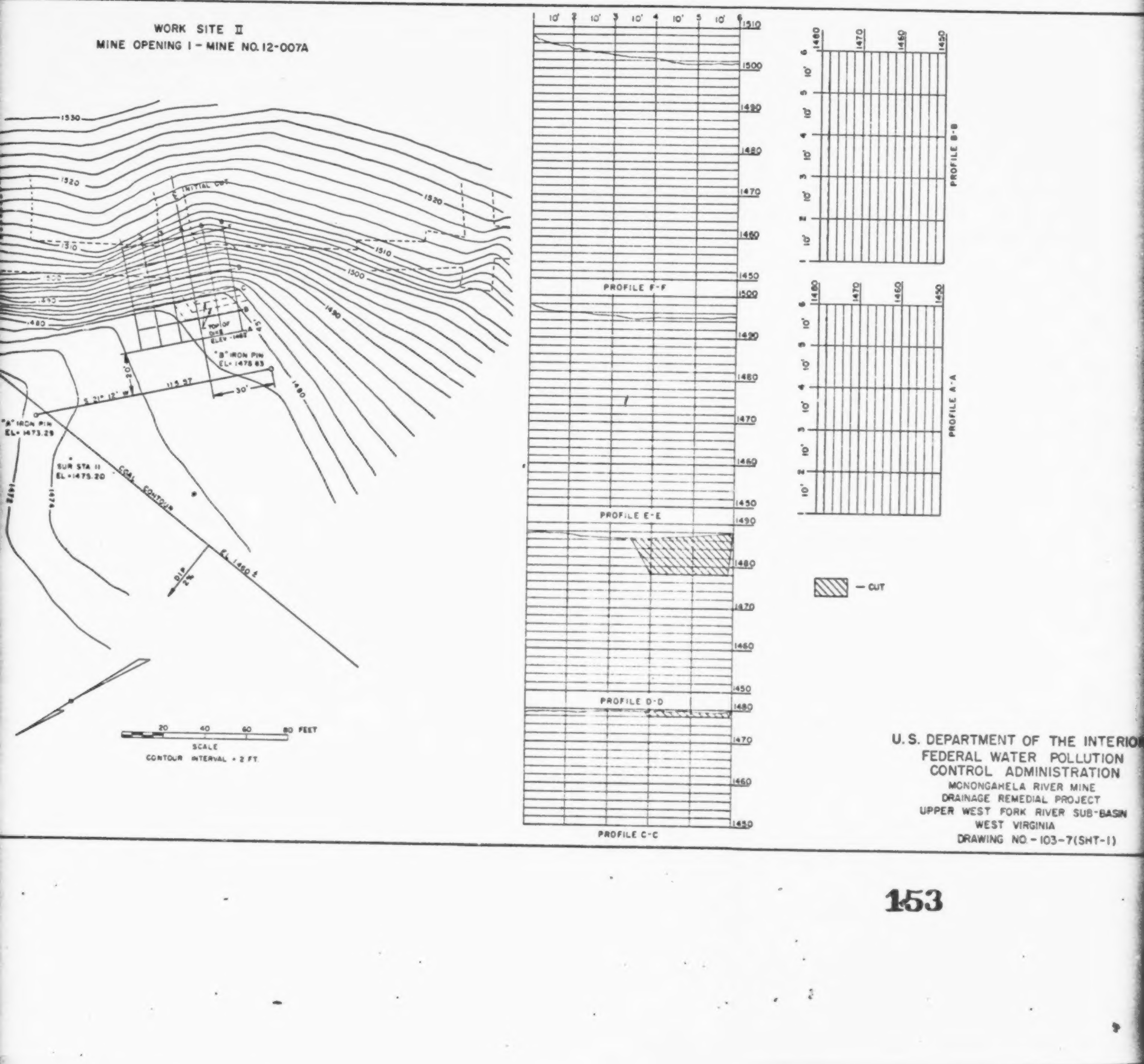
▧ — CUT

▨ — INITIAL CUT

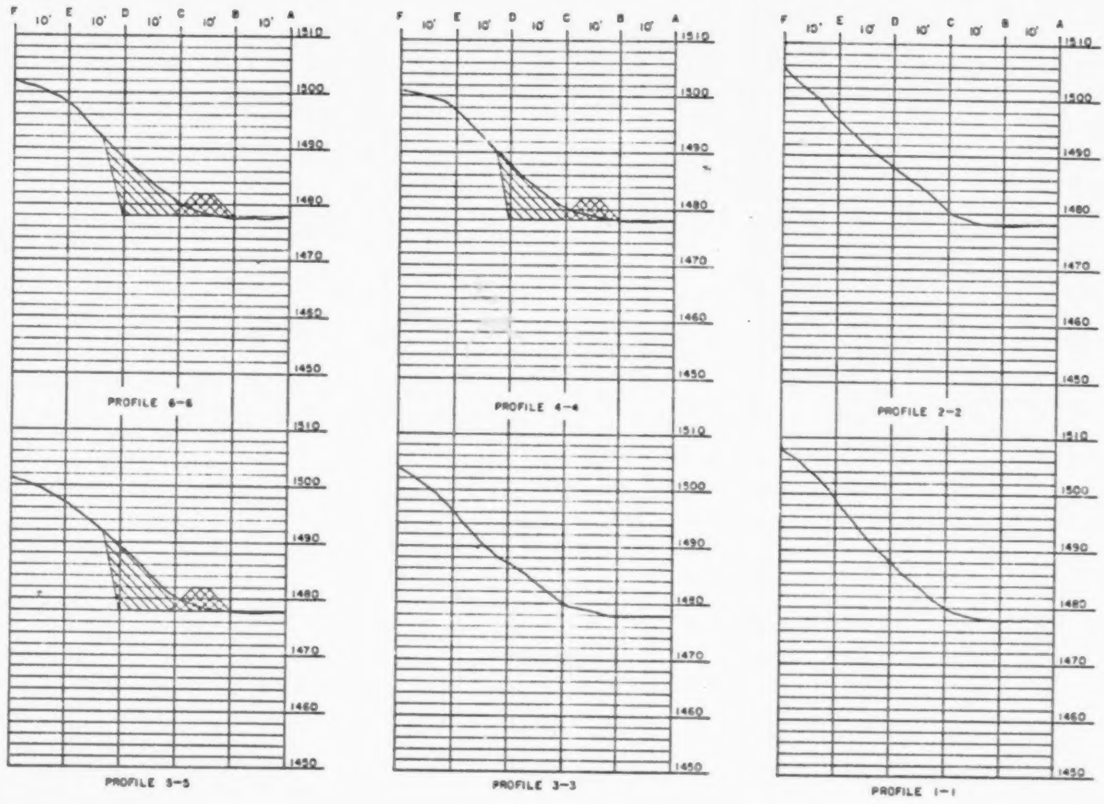
PROFILES-MINE OPENING NO. 3

U S DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. -103-6 (SHT 2)

WORK SITE II
MINE OPENING 1 - MINE NO. 12-007A


1530
1520
1510
1500
1490
1480
INITIAL CUT
TOP OF DIKE ELEV. 1482
"B" IRON PIN EL- 1475.63
"A" IRON PIN EL- 1473.25
SUR STA 11 EL- 1475.20
S 21° 12' W
115.97
20'
30'
COAL CONTOUR
EL 1460 ±
DIP 2%
1474
1472
20 40 60 80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
10' 1 10' 2 10' 3 10' 4 10' 5 10' 6
1510
1500
1490
1480
1470
1460
1450
▨ — CUT

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-7(SHT-1)

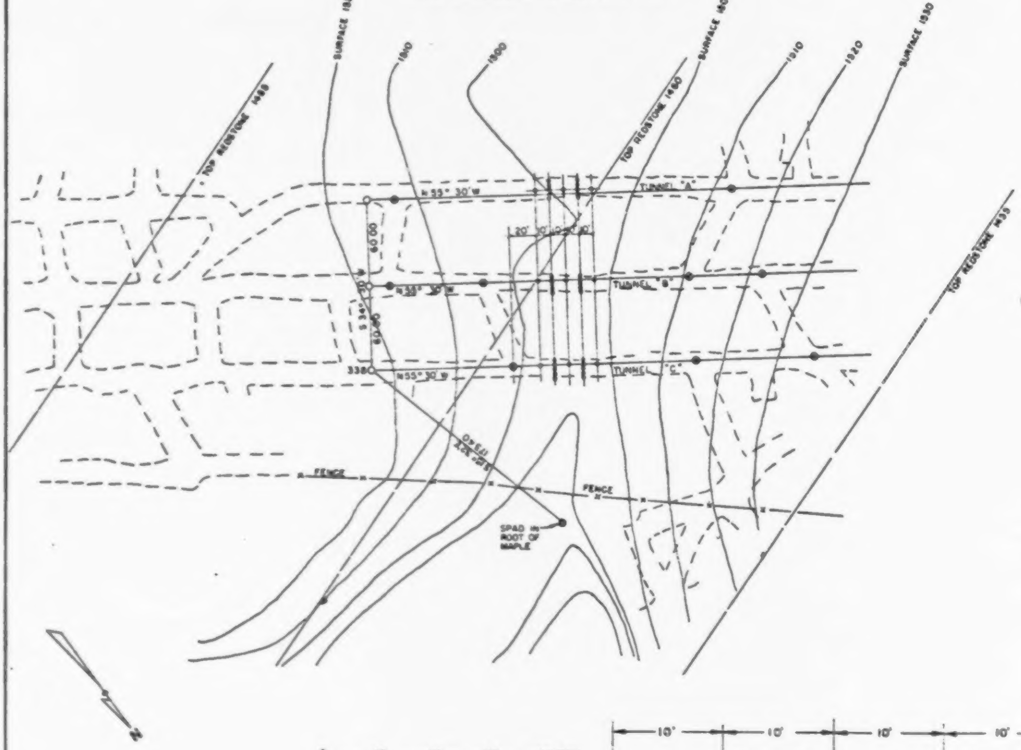

F
10'
E
10'
D
10'
C
10'
B
10'
A
1510
1500
1490
1480
1470
1460
1450
PROFILE 6-6
PROFILE 4-4
PROFILE 2-2
PROFILE 5-5
PROFILE 3-3
PROFILE 1-1

▨ — CUT

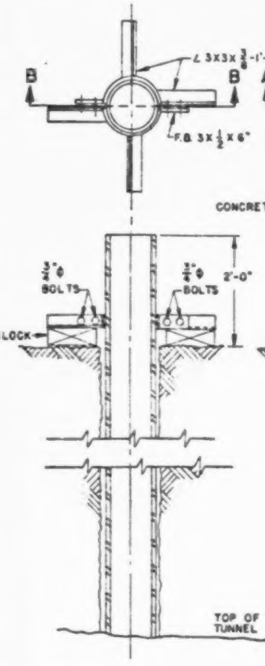
▩ — FILL

U S DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-7 (SHT 2)

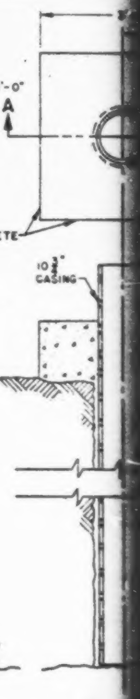
WORK SITE - I
MINE TUNNELS-MINE NO.12-007 A&B


SURFACE 1920
1910
1900
SURFACE 1900
1910
1920
SURFACE 1930
TOP REDSTONE 1488
TOP REDSTONE 1460
TOP REDSTONE 1435
N 55° 30' W
TUNNEL "A"
TUNNEL "B"
TUNNEL "C"
20' 10' 10' 10' 10'
60.00
60.00
338
FENCE
SPAD IN ROOT OF MAPLE
N

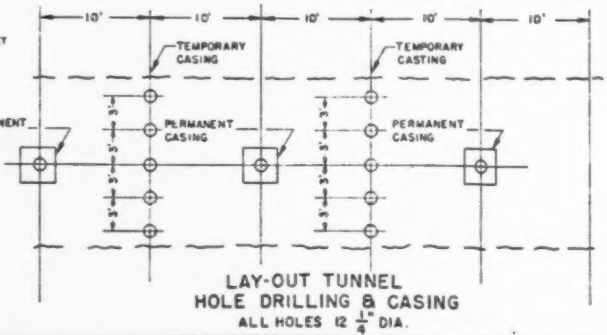
0 40 80 120 160 FEET
SCALE
CONTOUR INTERVAL = 10 FT.


B
B
∠ 3X3X 3/8 -1'-0"
F.B. 3X 1/2 X 6"
3/4" ϕ BOLTS
3/4" ϕ BOLTS
2'-0"
BLOCK
TOP OF TUNNEL

TEMPORARY TYPE
CASING
SECTION BB


A
CONCRETE
10 3/4" CASING

PERMANE
CAS
SECT


10'
10'
10'
10'
10'
TEMPORARY CASING
TEMPORARY CASTING
PERMANENT CASING
PERMANENT CASING
PERMANENT CASING
3'
3'
3'
3'
3'
3'
3'
3'

LAY-OUT TUNNEL
HOLE DRILLING & CASING
ALL HOLES 12 1/4" DIA.

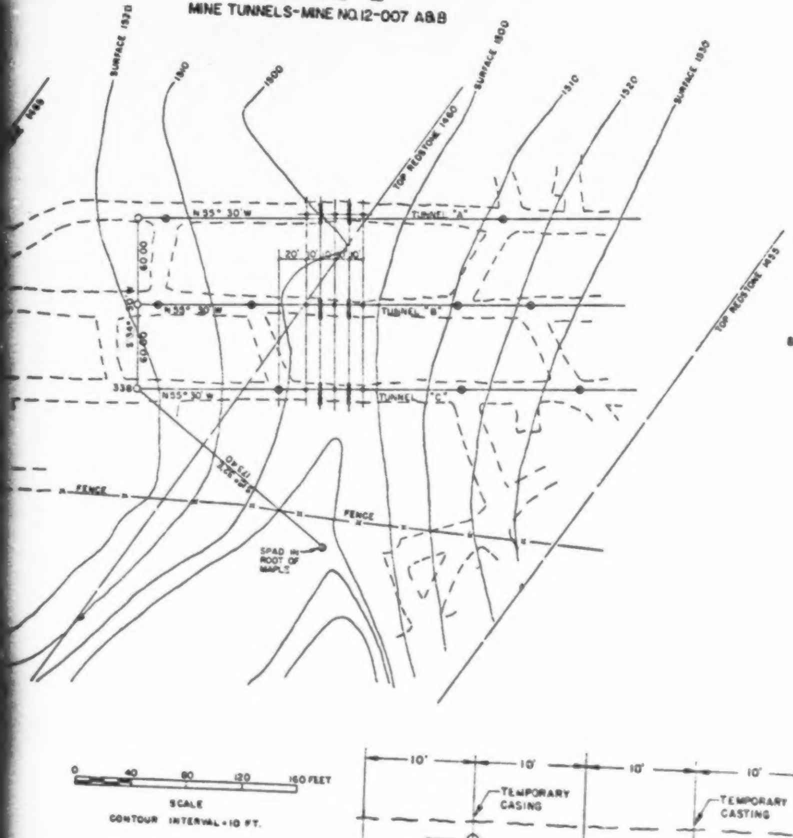
LEGEND

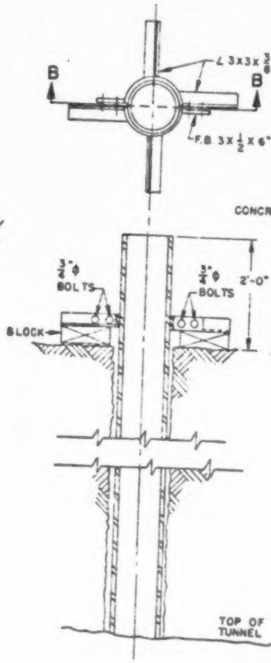
○ - HUB 2"X2" STAKE
⊗ - FLAT 2"X 3/4" STAKE
● - PERMANENT SURVEY STATION
338 - N° OF SURVEY STATION IN MINE

U.S. DEPARTMENT
FEDERAL WA
CONTROL A
MONONGAH
DRAINAGE
UPPER WEST
WEST
DRAWING

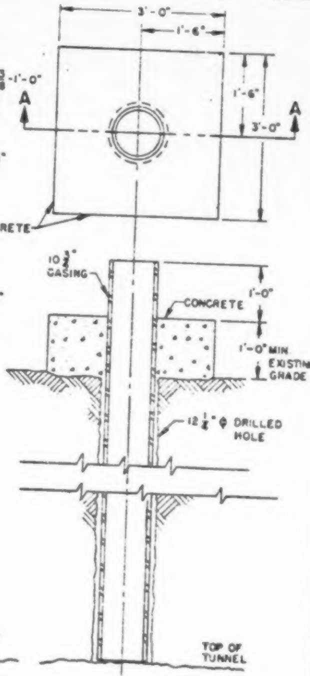
WORK SITE - I

MINE TUNNELS - MINE NO. 12-007 A&B


SURFACE 1930
1910
1900
SURFACE 1900
TOP REDSTONE 1860
1910
1920
SURFACE 1930
N 55° 30' W
TUNNEL "A"
TUNNEL "B"
TUNNEL "C"
20' 30' 10' 20' 30'
60.00
60.00
338
FENCE
SPAD IN ROOT OF MAPLE
TOP REDSTONE 1855
0 40 80 120 160 FEET
SCALE
CONTOUR INTERVAL - 10 FT.

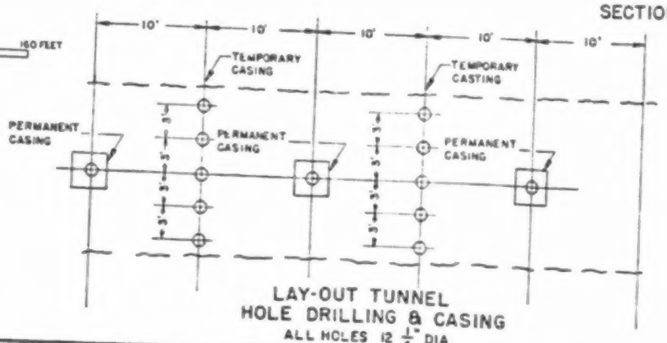

B
B
∠ 3x3x 3/8 - 1'-0"
F.B. 3x 1/2 x 6"
3/4" φ BOLTS
3/4" φ BOLTS
2'-0"
BLOCK
TOP OF TUNNEL

TEMPORARY TYPE CASING SECTION BB


3'-0"
1'-6"
1'-6"
3'-0"
A
A
CONCRETE
10 3/4" CASING
CONCRETE
1'-0"
1'-0" MIN
EXISTING GRADE
12 1/4" φ DRILLED HOLE
TOP OF TUNNEL

PERMANENT TYPE CASING SECTION AA

NE
KE
RVEY STATION
STATION IN MINE

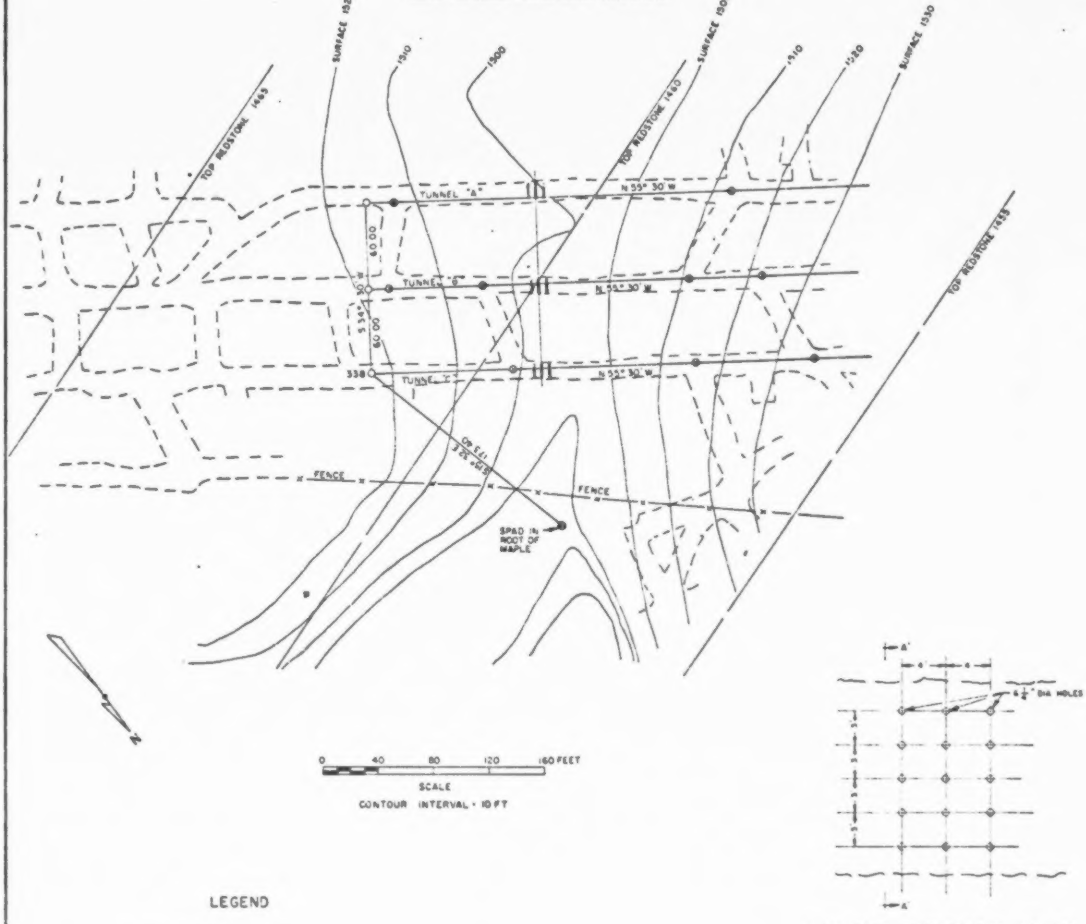

10'
10'
10'
10'
10'
TEMPORARY CASING
TEMPORARY CASTING
PERMANENT CASING
PERMANENT CASING
PERMANENT CASING
3'
3'
3'
3'

LAY-OUT TUNNEL HOLE DRILLING & CASING

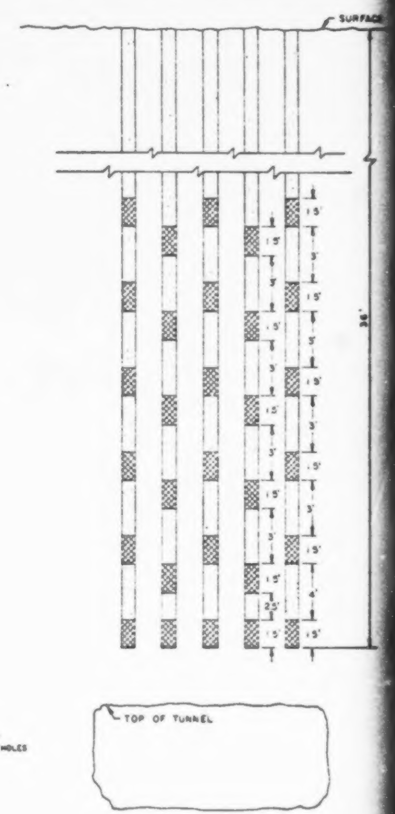
ALL HOLES 12 1/4" DIA.

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-8

TUNNEL - ALTERNATE I
WORK SITE - I
MINE TUNNELS - MINE NO.12-007A&B



SURFACE 1920
1910
1900
SURFACE 1900
1910
1920
SURFACE 1930
TOP REDSTONE 1463
TOP REDSTONE 1460
TOP REDSTONE 1455
TUNNEL "A"
N 55° 30' W
TUNNEL "B"
N 55° 30' W
TUNNEL "C"
N 55° 30' W
60.00
60.00
338
FENCE
FENCE
SPAD IN ROOT OF MAPLE
N
0
40
80
120
160 FEET
SCALE
CONTOUR INTERVAL - 10 FT



SURFACE
1.5'
3'
2.5'
4'
36'
TOP OF TUNNEL

SECTION A - A

▨ - EXPLOSIVE CHARGE

▯ - SAND

A'
4'
4'
6 1/4" DIA HOLES
3'
A'

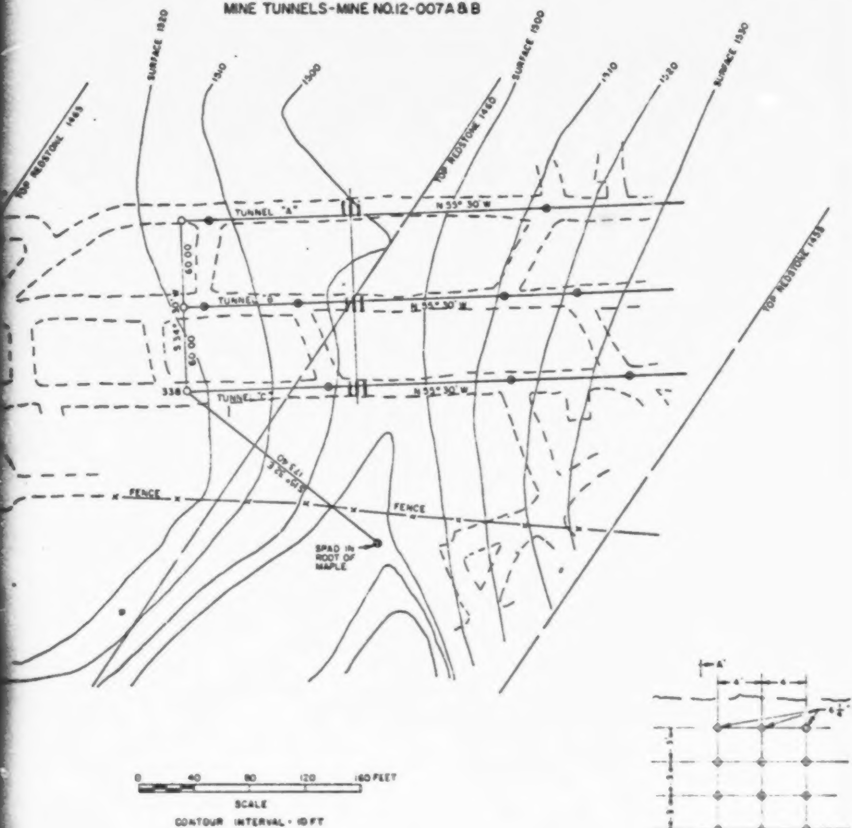
LAY OUT EXPLOSIVE HOLES

LEGEND

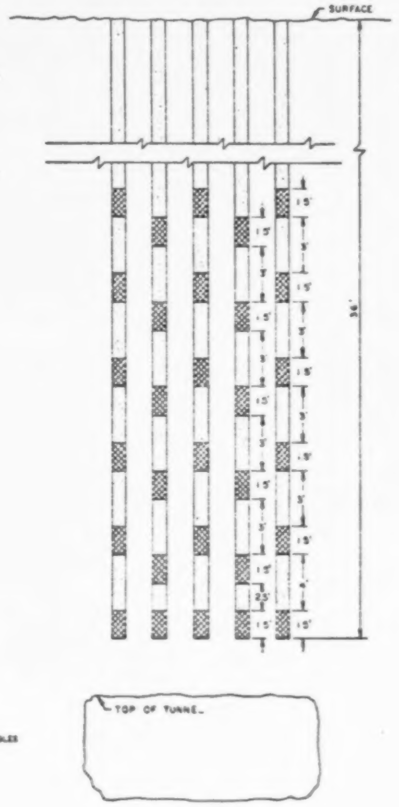
○ - HUB 2"X2" STAKE
⊗ - FLAT 2"X 3/4" STAKE
⊙ - PERMANENT SURVEY STATION
338 - Nº OF SURVEY STATION IN MINE

U.S. DEPARTMENT O
FEDERAL WATE
CONTROL ADM
MONONGAHELA
DRAINAGE REME
UPPER WEST FORK
WEST VI
DRAWING NO.

TUNNEL - ALTERNATE I
WORK SITE - I
MINE TUNNELS - MINE NO.12-007A&B



SURFACE 1520
1510
1500
SURFACE 1500
1510
1520
SURFACE 1530
TOP REDSTONE 1463
TOP REDSTONE 1460
TOP REDSTONE 1455
TUNNEL "A"
N 55° 30' W
TUNNEL "B"
N 55° 30' W
TUNNEL "C"
N 55° 30' W
60.00
60.00
534
338
FENCE
FENCE
SPAD IN ROOT OF MAPLE
0
40
80
120
160 FEET
SCALE
CONTOUR INTERVAL - 10 FT

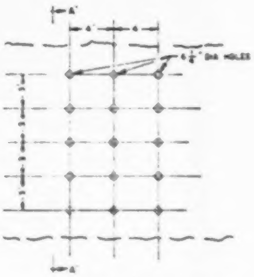


SURFACE
1.5'
3'
2.5'
4'
36'
TOP OF TUNNEL

SECTION A - A

▨ - EXPLOSIVE CHARGE

☐ - SAND



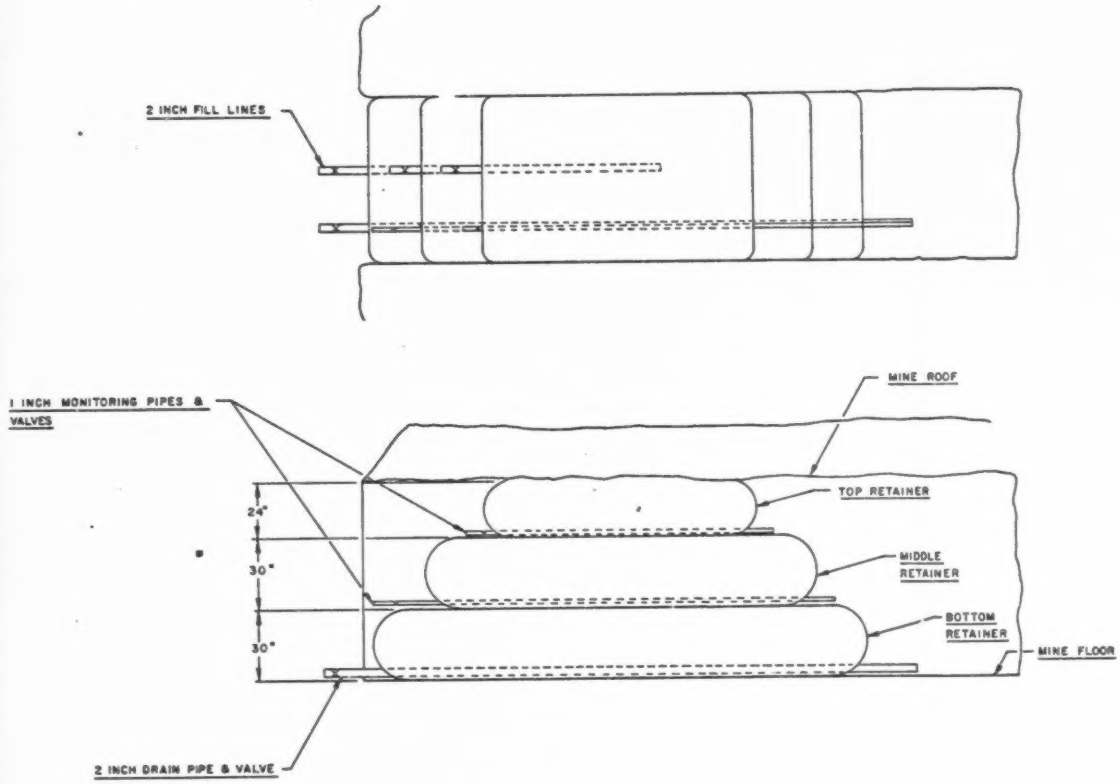
A'
4'
4'
$6\frac{3}{4}$" DIA. HOLES
A'

LAY OUT EXPLOSIVE HOLES

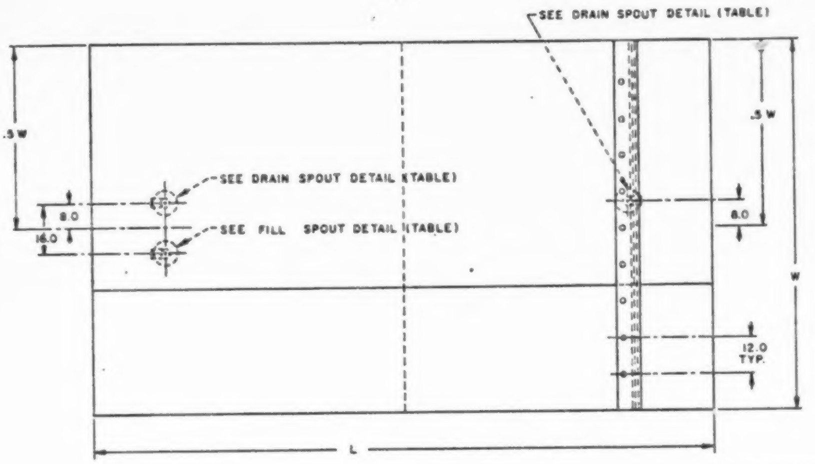
LEGEND

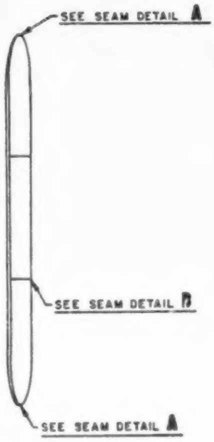
2"X2" STAKE
2"X$\frac{3}{4}$" STAKE
MANENT SURVEY STATION
F SURVEY STATION IN MINE

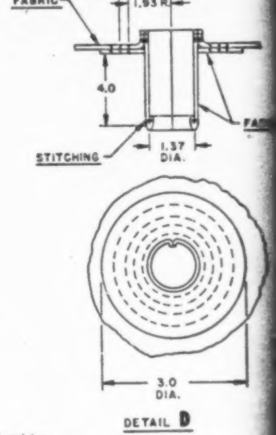
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 103-9

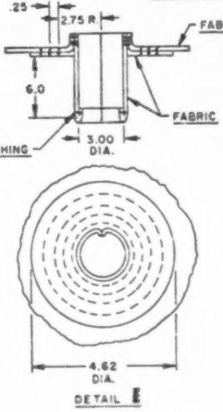

2 INCH FILL LINES
1 INCH MONITORING PIPES & VALVES
MINE ROOF
24"
30"
30"
TOP RETAINER
MIDDLE RETAINER
BOTTOM RETAINER
MINE FLOOR
2 INCH DRAIN PIPE & VALVE

MINE PLUG-TYPICAL
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-6

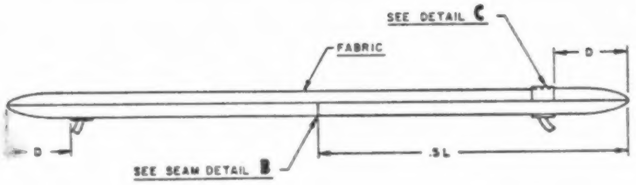

SEE DRAIN SPOUT DETAIL (TABLE)
.5 W
SEE DRAIN SPOUT DETAIL (TABLE)
8.0
16.0
SEE FILL SPOUT DETAIL (TABLE)
.5 W
8.0
W
12.0 TYP.
L

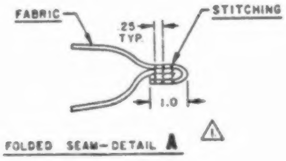

SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A

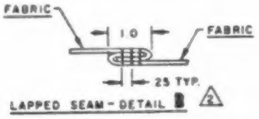

FABRIC
.25
1.93 R.
4.0
FABRIC
STITCHING
1.37 DIA.
3.0 DIA.
DETAIL D

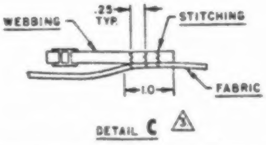

.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00 DIA.
4.62 DIA.
DETAIL E

RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E


SEE DETAIL C
FABRIC
D
D
SEE SEAM DETAIL B
.5 L

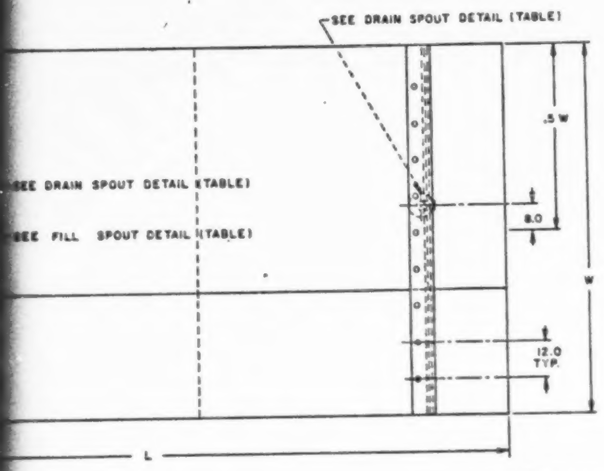

FABRIC
.25 TYP.
STITCHING
1.0
FOLDED SEAM-DETAIL A 1

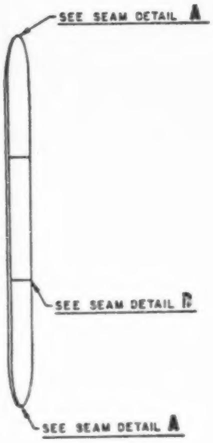

FABRIC
1.0
FABRIC
.25 TYP.
LAPPED SEAM-DETAIL B 2

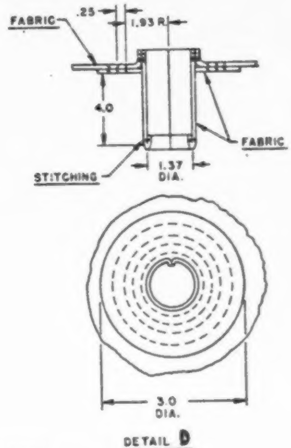

.25 TYP.
WEBBING
STITCHING
1.0
FABRIC
DETAIL C 3

1. SEAM AS PER DETAIL **A** TO HAVE MINIMUM TENSILE STRENGTH OF 100 LBS/IN.
2. SEAM AS PER DETAIL **B** TO HAVE MINIMUM TENSILE STRENGTH OF 200 LBS/IN.
3. STITCHING OF WEBBING TO FABRIC TO FORM CONNECTION HAVING MINIMUM TENSILE STRENGTH OF 50 LBS/IN.

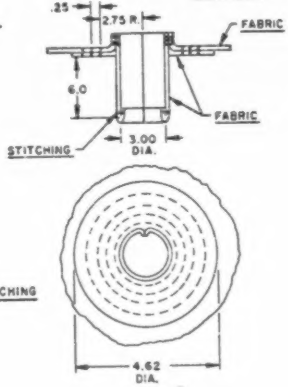
DIMENSIONAL SPECIFICATIONS
EXPENDABLE GROUT RETAINER
U. S. DEPARTMENT OF THE INTE
FEDERAL WATER POLLUTIO
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BA
WEST VIRGINIA
DRAWING NO. -101-7


SEE DRAIN SPOUT DETAIL (TABLE)
SEE DRAIN SPOUT DETAIL (TABLE)
SEE FILL SPOUT DETAIL (TABLE)
.5 W
8.0
W
12.0
TYP.
L


SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A

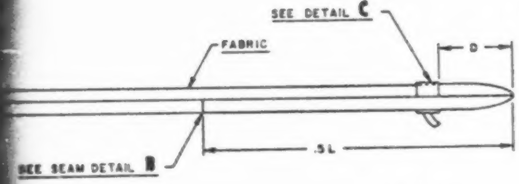

FABRIC
.25
1.93 R.
4.0
FABRIC
STITCHING
1.37
DIA.
3.0
DIA.

DETAIL **D**

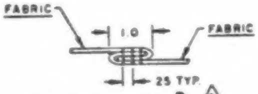

.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00
DIA.
4.62
DIA.

DETAIL **E**

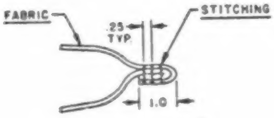
RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E


SEE DETAIL C
FABRIC
D
.5 L
SEE SEAM DETAIL B

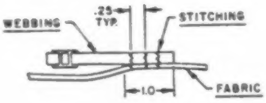
A TO HAVE MINIMUM TENSILE
IN.
B TO HAVE MINIMUM TENSILE
IN.
TO FABRIC TO FORM CONNECTION
E STRENGTH OF 50 LBS/IN.


FABRIC
1.0
FABRIC
.25 TYP.

LAPPED SEAM - DETAIL **B** △2

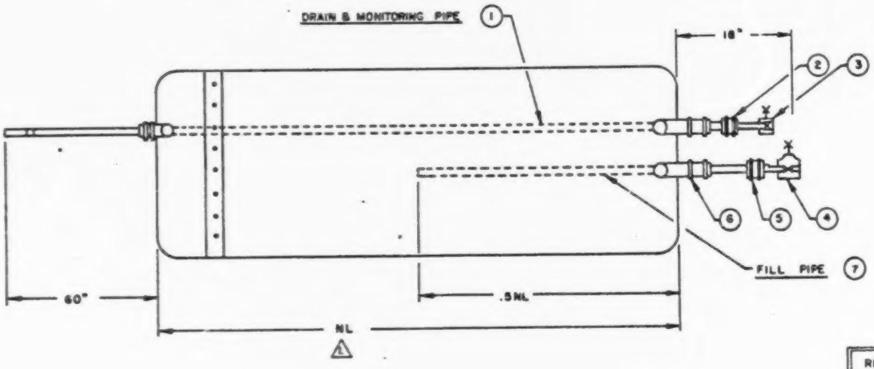

FABRIC
.25
TYP.
STITCHING
1.0

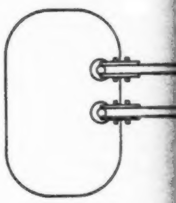
FOLDED SEAM - DETAIL **A** △1


WEBBING
.25
TYP.
STITCHING
1.0
FABRIC

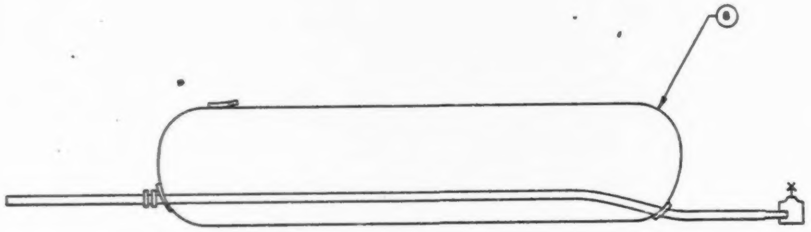
DETAIL **C** △3

DIMENSIONAL SPECIFICATIONS
EXPENDABLE GROUT RETAINER
U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-7


DRAIN & MONITORING PIPE
①
18"
②
③
⑥
⑤
④
FILL PIPE
⑦
60"
.5NL
NL
△1



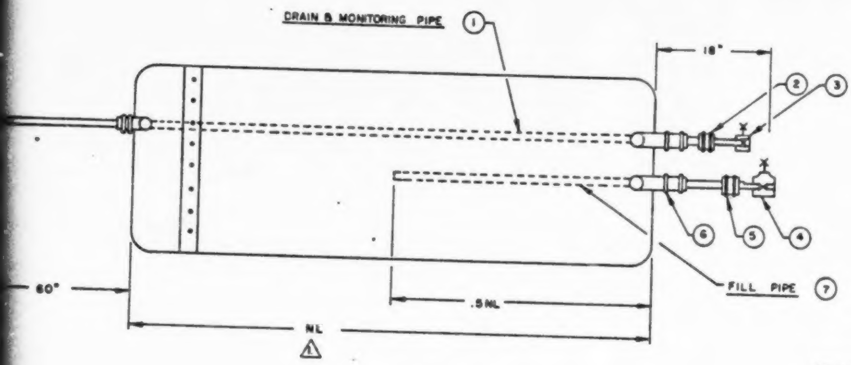
RETAINER NO.	L	NL
1. (BOTTOM)	24	20
2.	20	16
3.	16	13
4. (TOP)	13	10

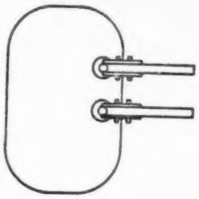


LOC.	NO. REQ'D.	MATERIAL REQUIRED
1	1	MONITORING & DRAIN
2	2	ADAPTER
3	1	MONITORING AND/OR
4	1	FILL VALVE
5	4	ADAPTER CLAMPS
6	6	RETAINER CONNECTOR
7	1	FILL PIPE
8	1	RETAINER

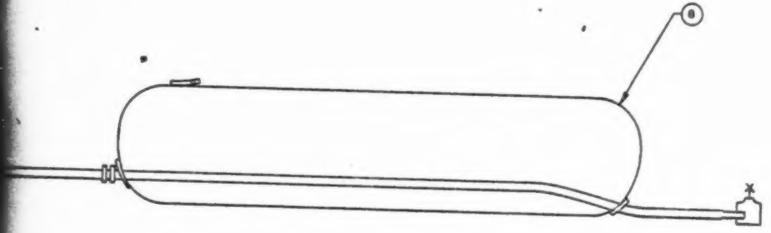
△1 NL = NOMINAL LENGTH OF RETAINER AFTER FILLING.

EXPENDABL
U. S. DEPARTME
FEDERAL W
CONTROL
MONONGA
DRAINAGE
UPPER WEST
WES
DRAWIN





RETAINER NO.	L	NL
1. (BOTTOM)	24	20
2.	20	16
3.	16	13
4. (TOP)	13	10



LOC	NO. REQ'D.	MATERIAL REQUIRED
1	1	MONITORING & DRAIN PIPE
2	2	ADAPTER
3	1	MONITORING AND/OR DRAIN VALVE
4	1	FILL VALVE
5	4	ADAPTER CLAMPS
6	6	RETAINER CONNECTOR CLAMPS
7	1	FILL PIPE
8	1	RETAINER

△1 NOMINAL LENGTH OF RETAINER AFTER FILLING.

ASSEMBLY
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO - 101-8

PLANS AND SPECIFICATIONS
FOR
REMEDIAL CONSTRUCTION

MINE NO. 62-067

Monongahela River Mine Drainage Remedial Project
Upper West Fork River Sub-basin
West Virginia

UNITED STATES DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
633 Indiana Avenue, N.W.
Washington, D.C. 20242

PLANS AND SPECIFICATIONS FOR REMEDIAL CONSTRUCTION ON MINE NO. 62-067 MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

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PART I - DESCRIPTION OF WORK

The work included in these specifications covers all construction operations necessary in the performance of site preparation and remedial work on Mine No. 62-067.

This mine is an isolated strip and drift mine located approximately 3.3 miles southwest of Clarksburg, West Virginia overlooking U. S. Highway 19 in Harrison County, as marked on the Vicinity Map, Drawing No. 102-1.

The Pittsburgh coal seam has been drift mined, but no detailed map of the workings is available. With the exception of about 500 feet of periphery on the northeast side, the seam has also been strip mined. The coal rights belong to Nina A. Snider of Daytona Beach, Florida. Land owners are Nina A. Snider and Mason and Allen. There are five (5) openings in the mine and all are draining to some extent. Considerable subsidence exists in the unstripped areas above the tunnel areas.

All openings are marked on Drawing No. 102-1, Mine Site Map. Opening 5 is shown as an insert since it is on the opposite side of the mine, about 2,600 feet south of other openings.

Opening No. 1 on Work Site I is an old mine opening partially blocked by sloughage. It is shown in detail on Drawing No. 102-2. Opening No. 2 is similar in appearance to Opening No. 1 and is shown in detail in Drawing No. 102-3. Opening No. 3 is a 24" concrete pipe extending from the mine as shown on Drawing No. 102-4. Opening No. 4 is another mine opening which is partially covered with sloughed material.

This is shown in detail on Drawing No. 102-5. Opening No. 5 is not visible due to backfill or sloughed material, but an appreciable flow is coming out from beneath the backfill. This work site is shown on Drawing No. 102-6. A typical stratigraphic section of the general area is included on Drawing No. 102-1.

The work to be performed will include the following principal features:

a. Site preparation, including layout and clearing and grubbing.

b. Excavation on Work Sites I, II and IV.

c. Drilling on Work Site V.

d. Plugging of Openings 1, 2 and 4 with Expendable Grout Retainers.

e. Plugging of Opening 3 using plug and concrete.

f. Filling of subsidence areas with gob-cement mixture.

g. Grouting of Opening No. 5.

h. Recontouring of subsidence areas to finish grade.

STANDARD FORM 20
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

REFERENCE

DATE

NAME AND LOCATION OF PROJECT

DEPARTMENT OR AGENCY
U. S. Department of the Interior

BY (*Issuing office*)
U.S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N.W.
Washington, D.C. 20242

Sealed bids in duplicate for the work described herein will be received until

at

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A. BID BONDS. Each bidder shall submit with his bid a Bid Bond (Standard Form 24) with good and sufficient surety or sureties acceptable to the Government, or other security as provided in paragraph 4 of Instructions to Bidders (Standard Form 22) in the form of twenty percent (20%) of the bid price or $3,000.00 whichever is lesser. The bid bond penalty may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents.

B. PERFORMANCE AND PAYMENT BONDS. Within 10 days after the prescribed forms are presented to the bidder to whom award is made for signature, a written contract on the form prescribed by the specifications shall be executed and two bonds, each with good and sufficient surety or sureties acceptable to the Government, furnished; namely a performance bond (Standard Form 25 or 27) and a payment bond (Standard Form 25A or 27A). The penal sums of such bonds will be as follows:

I. Performance Bond. The penal sum of the performance bond shall equal 100 percent of the contract price.

II. Payment Bond.
   a. The penal sum will be fifty percent (50%) of the contract price.

Any bonds furnished will be furnished by the contractor to the Government prior to commencement of contract performance.

Description of work

The work to be performed includes the following principal features:

Sealing of five openings on an abandoned coal mine. Approximately 1600 CY of excavation will be required. Subsided areas will be filled and recontoured to finish grade. Special retainers and grouting techniques will be used in sealing the openings.

The above general outline does not limit the work to be less than all that required under the plans and specifications.

20-104

U.S. GOVERNMENT PRINTING OFFICE [illegible]

STANDARD FORM 22
JUNE [illegible] EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) [illegible]

INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. ***Explanations to Bidders.*** Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. ***Conditions Affecting the Work.*** Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. ***Bidder's Qualifications.*** Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. ***Bid Guarantee.*** Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (*a*) to unsuccessful bidders as soon as practicable after the opening of bids, and (*b*) to the successful bidder upon execution of such further contractual documents and bonds as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. ***Preparation of Bids.*** (*a*) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(*b*) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(*c*) Unless called for, alternate bids will not be considered.

(*d*) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. ***Submission of Bids.*** Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. ***Late Bids and Modifications or Withdrawals.*** (*a*) Bids and modifications or withdrawals thereof received at the office designated in the invitation for bids after the exact time set for opening of bids will not be considered unless: (1) They are received before award is made; and either (2) they are sent by registered mail or by certified mail for which an official dated post office stamp (postmark) on the original Receipt for Certified Mail has been obtained, or by telegraph if authorized, and it is determined by the Government that the late receipt was due solely to delay in the mails, or delay by the telegraph company, for which the bidder was not responsible; or (3) if submitted by mail (or by telegram if authorized), it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation: *Provided,* That timely receipt at such installation is established upon examination of an appropriate date or time stamp (if any) of such installation, or of other documentary evidence of receipt (if readily available) within the control of such installation or of the post office serving it. However, a modification which makes the terms of the otherwise successful bid more favorable to the Government will be considered at any time it is received and may thereafter be accepted.

(*b*) Bidders using certified mail are cautioned to obtain a Receipt for Certified Mail showing a legible, dated postmark and to retain such receipt against the chance that it will be required as evidence that a late bid was timely mailed.

(*c*) The time of mailing of late bids submitted by registered or certified mail shall be deemed to be the last minute of the date shown in the postmark on the registered mail receipt or registered mail wrapper or on the Receipt for Certified Mail unless the bidder furnishes evidence from the post office station of mailing which establishes an earlier time. In the case of certified mail, the only acceptable evidence is as follows: (1) where the Receipt for Certified Mail identifies the post office station of mailing, evidence furnished by the bidder which establishes that the business day of that station ended at an earlier time, in which case the time of mailing shall be deemed to be the last minute of the business day of that station; or (2) an entry in ink on the Receipt for Certified Mail showing the time of mailing and the initials of the postal employee receiving the item and making the entry, with appropriate written verification of such entry from the post office station of mailing, in which case the time of mailing shall be the time shown in the entry. If the postmark on the original Receipt for Certified Mail does not show a date, the bid shall not be considered.

8. ***Withdrawal of Bids.*** Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids.

9. ***Public Opening of Bids.*** Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. ***Award of Contract.*** (*a*) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids, is most advantageous to the Government, price and other factors considered.

(*b*) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(*c*) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. ***Contract and Bonds.*** The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

☆ U.S. GOVERNMENT PRINTING OFFICE 1964—O-738-188

READ THE FOLLOWING IN CONJUNCTION WITH INSTRUCTIONS TO BIDDERS, U. S. STANDARD FORM 22:

1. Each bidder shall furnish a list of the plant and equipment available to the bidder and proposed for use on the work.

2. Sets of drawings reduced to half-size, and of specifications will be furnished upon receipt of payment of $5.00 per set. If individual plan sheets are requested they will be furnished at the rates of $0.20 for half-size for each sheet requested, but with a minimum charge of $1.00. The maximum charge shall not exceed the charge for a full set of plans. No refunds of the payment for drawings will be made and the drawings need not be returned to the District Engineer. Additional copies of the specifications alone will be furnished an applicant at the rate of $2.00 per copy. Payments will be made by cash, check or money order. Checks and money orders should be made payable to "Treasurer of the United States".

3. Modifications prior to date set for opening bids. The right is reserved, as the interest of the Government may require, to revise or amend the specifications and/or drawings prior to the date set for opening bids. Such revisions and amendment, if any, will be announced by an amendment or amendments to this Invitation for Bids. Copies of such amendments as may be issued will be furnished to all prospective bidders. If the revisions and amendments are of a nature which require material changes in quantities or prices bid or both, the date set for opening bids may be postposed by such number of days as in the opinion of the Contracting Officer will enable bidders to revise their bids. In such cases, the amendment will include an announcement of the new date for opening bids.

4. The Government further reserves the right to make award of any or all schedules of any bid, unless the bidder qualifies such bid by specific limitation; also to make award to the low bidder whose aggregate bid on any combination of bid schedules is low. For the purpose of this Invitation for Bids, the word item as used in paragraph 10 (c) of Standard Form 22, shall be considered to mean "schedule".

5. Bidders are required to acknowledge receipt of all amendments to this Invitation on the Bid Form (Standard Form 21) in the space provided, or by separate letter or telegram prior to opening of bids. Failure to acknowledge all amendments may cause rejection of the bid.

6. The bidder is advised that Standard Form 23, Construction Contract, together with Standard Form 23A, General Provisions (Construction Contracts), and Standard Form 19A, Labor Standard Provisions applicable to contracts in excess of $2,000, is enclosed for information only.

Attachments:
Std. Form 22, 23 & 23A including Pages
1 thru 14 (Civil) and Std. Form 19A

STANDARD FORM 23
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

CONSTRUCTION CONTRACT

(See instructions on reverse)

CONTRACT NO

DATE OF CONTRACT

NAME AND ADDRESS OF CONTRACTOR

CHECK APPROPRIATE BOX

☐ Individual
☐ Partnership
☐ Joint Venture
☐ Corporation, incorporated in the State of ____________

DEPARTMENT OR AGENCY

CONTRACT FOR *(Work to be performed)*

PLACE

CONTRACT PRICE *(Express in words and figures)*

ADMINISTRATIVE DATA *(Optional)*

The United States of America (hereinafter called the Government), represented by the Contracting Officer executing this contract, and the individual, partnership, joint venture, or corporation named above (hereinafter called the Contractor), mutually agree to perform this contract in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), and the following designated specifications, schedules, drawings, and conditions:

WORK SHALL BE STARTED

WORK SHALL BE COMPLETED

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Alterations. The following alterations were made in this contract before it was signed by the parties hereto:

In witness whereof, the parties hereto have executed this contract as of the date entered on the first page hereof.

THE UNITED STATES OF AMERICA	CONTRACTOR
By ______________________	______________________ *(Name of Contractor)*
______________________ *(Official title)*	By ______________________ *(Signature)*
	______________________ *(Title)*

INSTRUCTIONS

1. The full name and business address of the Contractor must be inserted in the space provided on the face of the form. The Contractor shall sign in the space provided above with his usual signature and typewrite or print his name under the signature.

2. An officer of a corporation, a member of a partnership, or an agent signing for the Contractor shall place his signature and title after the word "By" under the name of the Contractor. A contract executed by an attorney or agent on behalf of the Contractor shall be accompanied by two authenticated copies of his power of attorney or other evidence of his authority to act on behalf of the Contractor.

U.S. GOVERNMENT PRINTING OFFICE : 1960 OF—572728—40

STANDARD FORM 23-A
JUNE 1964 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

GENERAL PROVISIONS

(Construction Contract)

1. Definitions

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative.

2. Specifications and Drawings

The Contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy either in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

3. Changes

The Contracting Officer may, at any time, by written order, and without notice to the sureties, make changes in the drawings and/or specifications of this contract if within its general scope. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment under this clause must be asserted in writing within 30 days from the date of receipt by the Contractor of the notification of change unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions; but nothing provided in this clause shall excuse the Contractor from proceeding with the prosecution of the work as changed. Except as otherwise provided in this contract, no charge for any extra work or material will be allowed.

4. Changed Conditions

The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (a) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (b) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of this contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given notice as above required; or unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions.

5. Termination for Default—Damages for Delay—Time Extensions

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Government may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the Government resulting from his refusal or failure to complete the work within the specified time.

(b) If fixed and agreed liquidated damages are provided in the contract and if the Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If fixed and agreed liquidated damages are provided in the contract and if the Government does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment under the contract), notifies the Contracting Officer in writing of the causes of delay.

The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in Clause 6 of these General Provisions.

(e) If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be

the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

6. Disputes

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged: *Provided, however*, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This Disputes clause does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

7. Payments To Contractor

(a) The Government will pay the contract price as hereinafter provided.

(b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of the contract work. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize any of the remaining progress payments to be made in full. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release, if required, of all claims against the Government arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

8. Assignment of Claims

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating $1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff. (The preceding sentence applies only if this contract is made in time of war or national emergency as defined in said Act; and is with the Department of Defense, the General Services Administration, the Atomic Energy Commission, the National Aeronautics and Space Administration, the Federal Aviation Agency, or any other department or agency of the United States designated by the President pursuant to Clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

9. Material and Workmanship

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process which, in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which he contemplates incorporating in the work. When so directed, samples shall

be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

10. Inspection and Acceptance

(a) Except as otherwise provided in this contract, inspection and test by the Government of material and workmanship required by this contract shall be made at reasonable times and at the site of the work, unless the Contracting Officer determines that such inspection or test of material which is to be incorporated in the work shall be made at the place of production, manufacture, or shipment of such material. To the extent specified by the Contracting Officer at the time of determining to make off-site inspection or test, such inspection or test shall be conclusive as to whether the material involved conforms to the contract requirements. Such off-site inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with Clause 5 of these General Provisions.

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

11. Superintendence By Contractor

The Contractor shall give his personal superintendence to the work or have a competent foreman or superintendent, satisfactory to the Contracting Officer, on the work at all times during progress, with authority to act for him.

12. Permits and Responsibilities

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occur as a result of his fault or negligence. He shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

13. Conditions Affecting the Work

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government. The Government assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Government are expressly stated in the contract.

14. Other Contracts

The Government may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Government employees and carefully fit his own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Government employees.

15. Patent Indemnity

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder.

16. Additional Bond Security

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

17. Covenant Against Contingent Fees

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

18. Officials Not To Benefit

No member of Congress or resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

19. Buy American

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a–10d) and Executive Order 10582, December 17, 1954 (3 CFR Supp.), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic material listed in the contract.

(b) Domestic construction material. "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) Domestic component. A component shall be considered to have been "mined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

20. Convict Labor

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

21. Equal Opportunity Clause

(The following clause is applicable unless this contract is exempt under the rules and regulations of the President's Committee on Equal Employment Opportunity (41 CFR, Chapter 60). Exemptions include contracts and subcontracts (i) not exceeding $10,000, (ii) not exceeding $100,000 for standard commercial supplies or raw materials, and (iii) under which work is performed outside the United States and no recruitment of workers within the United States is involved.)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under this nondiscrimination clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(e) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked as provided in the said Executive order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. *The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**Unless otherwise provided, the Equal Opportunity Clause is not required to be inserted in subcontracts below the second tier except for subcontracts involving the performance of 'construction work' at the 'site of construction' (as those terms are defined in the Committee's rules and regulations) in which case the clause must be inserted in all such subcontracts. Subcontracts may incorporate by reference the Equal Opportunity Clause.*

22. Utilization of Small Business Concerns

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

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THE FOLLOWING ALTERATIONS HAVE BEEN MADE IN THE GENERAL PROVISIONS STANDARD FORM 23-A, JUNE 1964 EDITION, OF THIS CONTRACT:

1. DEFINITIONS. Entire clause deleted and the following substituted:

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary of the Army; and the term "his duly authorized representative" means the Chief of Engineers, Department of the Army, or an individual or board designated by him.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative. (ECI 7-070 and ASPR 7-602. 1)

5. TERMINATION FOR DEFAULT--DAMAGES FOR DELAY--TIME EXTENSIONS. Subparagraph (d) (1) deleted and the following substituted:

(1) The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers, and (ASPR 8-709 (b))

7. PAYMENTS TO CONTRACTOR. Where the contract amount exceeds $1,000,000 and the time of performance exceeds one year, the following is added to subparagraph (c):

Where the time originally specified for completion of this contract exceeds one year, the Contracting Officer, at any time after 50 percent of the work has been completed, if he finds that satisfactory progress is being made, may reduce the total amount retained from progress payments to an amount not less than 10 percent of the estimated value of the work remaining to be done under the contract or 1-1/2 percent of the total contract amount, whichever is the higher. In computing the total contract amount, for the purposes of the preceding sentence, the contract amount for any separate building, public work, or other division of the contract on which the price is stated separately in the contract and on which payment has been made in full, including retained percentage thereon under this clause shall be excluded. (ASPR 7-602. 7 (b))

• 19. BUY AMERICAN. Clause heading and subparagraph (a) deleted and the following substituted:

19. BUY AMERICAN ACT (OCT. 1966)

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a-10d), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic construction material listed in the "Nondomestic Construction Materials" clause, if any, of this contract. •

21. EQUAL OPPORTUNITY. The clause is amended by deleting references to the President's Committee on Equal Employment Opportunity, Executive Order 10925 of March 6, 1961, as amended, and Section 303 of Executive Order No. 10925 of March 6, 1961, as amended, and substituting therefor the Secretary of Labor, Executive Order No. 11246 of September 24, 1965, and Section 204 of Executive Order 11246 of September 24, 1965, respectively.

The following additional footnote is added to the clause:

"In accordance with regulations of the Secretary of Labor, the rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive Orders superseded by Executive Order 11246, shall, to the extent that they are not inconsistent with Executive Order 11246, remain in full force and effect unless and until revoked or superseded by appropriate authority. References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of Executive Order 11246."

THE FOLLOWING GENERAL PROVISIONS ARE APPENDED HERETO AND MADE A PART OF THIS CONTRACT:

23. CONTRACTOR INSPECTION SYSTEM (Nov 1964)

The Contractor shall (i) maintain an adequate inspection system and perform such inspections as will assure that the work performed under the contract conforms to contract requirements, and (ii) maintain and make available to the Government adequate records of such inspections (ASPR 7-602.10 (a))

24 GRATUITIES (Mar 1952)

(a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found, after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract; provided, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event this contract is terminated as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor, and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract. (ASPR 7-104.16)

25 SMALL BUSINESS SUBCONTRACTING PROGRAM (MAINTENANCE, REPAIR AND CONSTRUCTION) (Mar 1964)

(Applicable to contracts in excess of $500,000.)

(a) The Contractor agrees to establish and conduct a small business subcontracting program which will enable small business concerns to be considered fairly as subcontractors, including suppliers, under this contract. In this connection, the Contractor shall designate an individual to (i) maintain liaison with the Government on small business matters, and (ii) administer the Contractor's Small Business Subcontracting Program.

(b) Prior to completion of the contract and as soon as the final information is available, the Contractor shall submit a completed DD Form 1140-1 to the Government addressees prescribed thereon. This subparagraph (b) is not applicable if the Contractor is a small business concern.

(c) The Contractor further agrees (i) to insert the "Utilization of Small Business Concerns" clause in subcontracts which offer substantial subcontracting opportunities, and (ii) to insert in each such subcontract exceeding $500,000 a clause conforming substantially to the language of this clause except that subcontractors shall submit DD Form 1140-1 direct to the Government addressees prescribed on the Form. The Contractor will notify the Contracting Officer of the name and address of each subcontractor that will be required to submit a report on DD Form 1140-1. (ASPR 1-707.3 (c))

26. FEDERAL, STATE, AND LOCAL TAXES (Aug 1961)

(a) Except as may be otherwise provided in this contract, the contract price includes all applicable Federal, State, and local taxes and duties.

(b) Nevertheless, with respect to any Federal excise tax or duty on the transactions or property covered by this contract, if a statute, court decision, written ruling, or regulation takes effect after the contract date, and--

(1) results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or increase in the rate thereof which would not otherwise have been payable on such transactions or property, the contract price shall be increased by the amount of such tax or duty or rate increase, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price as a contingency reserve or otherwise; or

(2) results in the Contractor not being required to pay or bear the burden of, or in his obtaining a refund or drawback of, any such Federal excise tax or duty which would otherwise have been payable on such transactions or property or which was the basis of an increase in the contract price, the contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Government, as directed by the Contracting Officer. The contract price shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contracting Officer, is required to pay or bear the burden of, or does not obtain a refund or drawback of, any such Federal excise tax or duty.

(c) No adjustment of less than $100 shall be made in the contract price pursuant to paragraph (b) above.

(d) As used in paragraph (b) above, the term "contract date" means the date set for bid opening, or if this is a negotiated contract, the contract date. As to additional supplies or services procured by modification to this contract, the term "contract date" means the date of such modification.

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government upon the request of the Contractor shall, without further liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax; provided that, evidence appropriate to establish exemption from any Federal excise tax or duty which may give rise to either an increase or decrease in the contract price will be furnished only at the discretion of the Government.

(f) The Contractor shall promptly notify the Contracting Officer of matters which will result in either an increase or decrease in the contract price, and shall take action with respect thereto as directed by the Contracting Officer. (ASPR 11-401.1 (c))

27. RENEGOTIATION (Oct 1959)

(a) To the extent required by law, this contract is subject to the Renegotiation Act of 1951 (50 U.S.C. App. 1211, et seq.), as amended, and to any subsequent act of Congress providing for the renegotiation of contracts. Nothing contained in this clause shall impose any renegotiation obligation with respect to this contract or any subcontract hereunder which is not imposed by an act of Congress heretofore or hereafter enacted. Subject to the foregoing this contract shall be deemed to contain all the provisions required by Section 104 of the Renegotiation Act of 1951,

(Construction General Provisions Cont'd)

and by any such other act, without subsequent contract amendment specifically incorporating such provisions.

(b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in section 103g of the Renegotiation Act of 1951, as amended. (ASPR 7-103.13 (a))

28. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (Apr 1966)

(a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:

(i) stop work under the contract on the date and to the extent specified in the Notice of Termination;

(ii) place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(iii) terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(iv) assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(v) settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;

(vi) transfer title and deliver to the Government, in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (A) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government;

(vii) use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (vi) above; provided, however, that the Contractor (A) shall not be required to extend credit to any purchaser, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(viii) complete performance of such part of the work as shall not have been terminated by the Notice of Termination, and

(ix) take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Section VIII, Armed Services Procurement Regulation, as it may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items, or if the items are stored, within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer, upon request of the Contractor made in writing within such one year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree, as provided in paragraph (d), upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any Settlement Review Board approvals required by Section VIII of the Armed

Services Procurement Regulation in effect as of the date of execution of this contract, pay to the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (d):

(i) with respect to all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of —

(A) the cost of such work;

(B) the cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (b) (v) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this contract, which amounts shall be included in the cost on account of which payment is made under (A) above; and

(C) a sum, as profit on (A) above, determined by the Contracting Officer pursuant to 8-303 of the Armed Services Procurement Regulation, in effect as of the date of execution of this contract, to be fair and reasonable, provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (C) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(ii) the reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b) (ix), and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this contract.

The total sum to be paid to the Contractor under (i) above shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under (i) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b) (vii).

(f) Any determination of costs under paragraph (c) or (e) hereof shall be governed by the principles for consideration of costs set forth in Section XV, Part 4, of the Armed Services Procurement Regulation, as in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes", from any determination made by the Contracting Officer under paragraphs (c) or (e) above, except that if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (i) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (ii) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (i) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract, (ii) any claim which the Government may have against the Contractor in connection with this contract, and (iii) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government; Provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, micro-photographs, or other authentic reproductions thereof.
(ASPR 8-701 (a) and (c))

29. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (Jan 1965)

The provisions of this clause shall be applicable only if the amount of this contract exceeds $10,000.

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) This clause shall be included in all subcontracts.
(ASPR 9-104)

30. AUTHORIZATION AND CONSENT (Mar 1964)

The Government hereby gives its authorization and consent (without prejudice to any rights of indemnification) for all use and manufacture, in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract), of any invention described in and covered by a patent of the United States (i) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract, or (ii) utilized in the machinery, tools, or methods the use of which necessarily results from compliance by the Contractor or the using subcontractor with (a) specifications or written provisions now or hereafter forming a part of this contract, or (b) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clauses, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted. (ASPR 9-102.1)

31. COMPOSITION OF CONTRACTOR (Jan 1965)

If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder. (ASPR 7-602.32)

32. SITE INVESTIGATION (Jan 1965)

The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from information presented by the drawings and specifications made a part of this contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Government. (ASPR 7-602.33)

33. PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS (Jan 1965)

(a) The Contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by the Contracting Officer.

(b) The Contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to him, and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this contract or the failure to exercise reasonable care in the performance of the work. If the Contractor fails or refuses to repair any such damage promptly, the Contracting Officer may have the necessary work performed and charge the cost thereof to the Contractor. (ASPR 7-602.34)

34. OPERATIONS AND STORAGE AREAS (Jan 1965)

(a) All operations of the Contractor (including storage of materials) upon Government premises shall be confined to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by his operations.

(b) Temporary buildings (storage sheds, shops, offices, etc.) may be erected by the Contractor only with the approval of the Contracting Officer, and shall be built with labor and materials furnished by the Contractor without expense to the Government. Such temporary buildings and utilities shall remain the property of the Contractor and shall be removed by him at his expense upon the completion of the work. With the written consent of the Contracting Officer, such buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways or construct and use such temporary roadways as may be authorized by the Contracting Officer. Where materials are transported in the prosecution of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbings or sidewalks, protection against damage shall be provided by the Contractor and any damaged roads, curbings, or sidewalks shall be repaired by, or at the expense of the Contractor. (ASPR 7-602.35)

35. PROGRESS CHARTS AND REQUIREMENTS FOR OVERTIME WORK (Jan 1965)

(a) The Contractor shall within 5 days or within such time as determined by the Contracting Officer, after date of commencement of work, prepare and submit to the Contracting Officer for approval a practicable schedule, showing the order in which the Contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plant and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress at such intervals as directed by the Contracting Officer, and shall immediately deliver to the Contracting Officer three copies thereof. If the Contractor fails to submit a progress schedule within the time herein prescribed, the Contracting Officer may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedule.

(b) If, in the opinion of the Contracting Officer, the Contractor falls behind the progress schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Contracting Officer may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Government.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this provision shall be grounds for determination by the Contract-

ing Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with the clause of the contract entitled "Termination for Default-Damages for Delay-Time Extensions." (ASPR 7-602. 36)

36. SUBCONTRACTORS (Oct 1966)

Within 7 days after the award of any subcontract either by himself or a subcontractor, the Contractor shall deliver to the Contracting Officer a statement setting forth the name and address of the subcontractor and a summary description of the work subcontracted. The Contractor shall at the same time furnish a statement signed by the subcontractor acknowledging the inclusion in his subcontract of the clauses of this contract entitled "Equal Opportunity", "Davis-Bacon Act", "Contract Work Hours Standards Act-Overtime Compensation", "Apprentices", "Payrolls and Basic Records", "Compliance with Copeland Regulations", "Withholding of Funds", "Subcontracts" and "Contract Termination-Debarment". Nothing contained in this contract shall create any contractual relation between the subcontractor and the Government. (ASPR 7-602. 37)

37. USE AND POSSESSION PRIOR TO COMPLETION (Jan 1965)

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Such possession or use shall not be deemed an acceptance of any work not completed in accordance with the contract. While the Government is in such possession, the Contractor, notwithstanding the provisions of the clause of this contract entitled "Permits and Responsibilities," shall be relieved of the responsibility for loss or damage to the work other than that resulting from the Contractor's fault or negligence. If such prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment in the contract price or the time of completion will be made and the contract shall be modified in writing accordingly. (ASPR 7-602. 39)

38. CLEANING UP (Jan 1965)

The Contractor shall at all times keep the construction area, including storage areas used by him, free from accumulations of waste material or rubbish and prior to completion of the work remove any rubbish from the premises and all tools, scaffolding, equipment, and materials not the property of the Government. Upon completion of the construction the Contractor shall leave the work and premises in a clean, neat and workmanlike condition satisfactory to the Contracting Officer. (ASPR 7-602. 40)

39. ADDITIONAL DEFINITIONS (Jan 1965)

(a) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory" or words of like import shall mean "approved by" or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(b) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provided complete in place", that is "furnished and installed". (ASPR 7-602. 41)

40. ACCIDENT PREVENTION (Jan 1965)

(a) In order to provide safety controls for protection to the life and health of employees and other persons, for prevention of damage to property, materials, supplies, and equipment; and for avoidance of work interruptions in the performance of this contract, the Contractor shall comply with all pertinent provisions of Corps of Engineers Manual, EM 385-1-1, dated 13 March 1958, entitled "General Safety Requirements", as amended, and will also take or cause to be taken such additional measures as the Contracting Officer may determine to be reasonably necessary for the purpose.

(b) The Contractor will maintain an accurate record of, and will report to the Contracting Officer in the manner and on the forms prescribed by the Contracting Officer, exposure data and all accidents resulting in death, traumatic injury, occupational disease, and damage to property, materials, supplies and equipment incident to work performed under this contract.

(c) The Contracting Officer will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

(d) Compliance with the provisions of this article by subcontractors will be the responsibility of the Contractor.

(e) Prior to commencement of the work the Contractor will:

(1) submit in writing his proposals for effectuating this provision for accident prevention;

(2) meet in conference with representatives of the Contracting Officer to discuss and develop mutual understandings relative to administration of the over-all safety program. (ASPR 7-602. 42 (a) and (b))

41. GOVERNMENT INSPECTORS (Jan 1965)

The work will be conducted under the general direction of the Contracting Officer and is subject to inspection by his appointed inspectors to insure strict compliance with the terms of the contract. No inspector is authorized to change any provision of the specifications without written authorization of the Contracting Officer, nor shall the presence or absence of an inspector relieve the Contractor from any requirements of the contract. (ASPR 7-602. 43)

42. PRICE ADJUSTMENT FOR SUSPENSION, DELAYS, OR INTERRUPTION OF WORK (Nov 1961)

(a) The Contracting Officer may order the Contractor in writing to suspend all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the Government.

(b) If, without the fault or negligence of the Contractor, the performance of all or any part of the work is for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Contracting Officer in the administration of the contract, or by his failure to act within the time specified in the contract (or if no time is specified within a reasonable time), an adjustment shall be made by the Contracting Officer for any increase in the cost of performance of the contract (excluding profit) necessarily caused by the unreasonable period of such suspension, delay, or interruption, and the contract shall be modified in writing accordingly. No adjustment shall be made to the extent that performance by the Contractor would have been prevented by other causes even if the work had not been so suspended, delayed, or interrupted. No

claim under this clause shall be allowed (i) for any costs incurred more than twenty days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply where a suspension order has been issued), and (ii) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption but not later than the date of final payment under the contract. Any dispute concerning a question of fact arising under this clause shall be subject to the Disputes clause. (ASPR 7-602.46)

43. EXAMINATION OF RECORDS (Feb 1962)

(The following clause is applicable, if this contract was entered into by means of negotiation, (including Small Business Restricted Advertising) but is not applicable if this contract was entered into by means of formal advertising.)

(a) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this contract, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor, involving transactions related to this contract.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in the clause excludes (i) purchase orders not exceeding $2,500 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.
(ASPR 7-104.15)

44. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS (Jan 1961)

(Applicable to rateable contracts)

The Contractor shall follow the provisions of DMS Reg. 1 and all other applicable regulations and orders of the Business and Defense Services Administration in obtaining controlled materials and other products and materials needed to fill this order. (ASPR 7-104.18)

45. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--PRICE ADJUSTMENTS (Mar 1963)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. The right to price reduction under this clause shall be limited to such price adjustments.

(b) If the Contracting Officer determines that any price, including profit, or fee, negotiated in connection with any price adjustment under this contract was increased by any significant sums because the Contractor or any subcontractor in connection with a subcontract covered by paragraph (d) below, furnished incomplete or inaccurate cost or pricing data or data not current as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data, then such price shall be reduced accordingly and the contract shall be modified in writing to reflect such adjustment.

(c) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(d) The Contractor agrees to insert the substance of paragraphs (a), (b), and (d) of this clause in each subcontract hereunder that exceeds $100,000.
(ASPR 7-104.29 (b))

46. INTEREST (May 1963)

Notwithstanding any other provisions of this contract, unless paid within 30 days all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code) shall bear interest at the rate of six percent per annum from the date due until paid and shall be subject to adjustments as provided by Part 6 of Appendix E of the Armed Services Procurement Regulation, as in effect on the date of this contract. Amounts shall be due upon the earliest one of (i) the date fixed pursuant to this contract, (ii) the date of the first written demand for payment, consistent with this contract, (iii) the date of transmittal by the Government to the Contractor of a proposed supplemental agreement to confirm completed negotiations fixing the amount, or (iv) if this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or in connection with a negotiated pricing agreement not confirmed by contract supplement.
(ASPR, Appendix E-620)

47. AUDIT-PRICE ADJUSTMENTS (Sep 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, unless the price adjustment is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) For purposes of verifying that cost or pricing data submitted in conjunction with a contract change or other modification involving an amount in excess of $100,000 are accurate, complete, and current, the Contracting Officer, the Comptroller General of the United States, or any authorized representatives, shall--until the expiration of three years from the date of final payment under this contract--have the right to examine those books, records, documents and other supporting data which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein, which were available to the Contractor as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data.

(c) The Contractor agrees to insert the substance of this clause in all subcontracts hereunder in excess of $100,000 so as to apply until three years after final payment under the subcontract and only when the change or other modification to the subcontract results from a change or other modification to the Government prime contract.

(The phrase "the Comptroller General of the United States," appearing in paragraph (b) of this provision, is not applicable to negotiated contracts including contracts awarded under a total (Small Business Restricted Advertising) set-aside.) (ASPR 7-104.41 (b))

48. SUBCONTRACTOR COST AND PRICING DATA--PRICE ADJUSTMENTS (May 1963)

(Applicable to all contracts in excess of $100,000)

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000. The requirements of this clause shall be limited

to such price adjustments.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances: (i) prior to award of any cost-reimbursement type, incentive, or price redeterminable subcontract; (ii) prior to the award of any subcontract the price of which is expected to exceed $100,000; (iii) prior to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed $100,000; except in the case of (ii) or (iii) where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete, and current as of the date of execution, which date shall be as close as possible to the date of agreement on the negotiated price of the contract modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds $100,000. (ASPR 7-104.42 (b))

49. DISPUTES CONCERNING LABOR STANDARDS (Jan 1965)

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of the contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor. (ASPR 7-603.26)

50. VALUE ENGINEERING INCENTIVE (Oct 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause applies to cost reduction proposals initiated and developed by the Contractor for changing the drawings, designs, specifications, or other requirements of this contract. This clause does not, however, apply to any such proposal unless it is identified by the Contractor, at the time of its submission to the Contracting Officer, as a proposal submitted pursuant to this clause. The cost reduction proposals contemplated are those that:

(i) would require, in order to be applied to this contract, a change order to this contract; and

(ii) would result in savings to the Government by providing less costly items than those specified herein without impairing any of their essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features.

(b) Cost reduction proposals, as defined herein, shall be processed expeditiously and in the same manner as prescribed for any proposal which would necessitate issuance of a contract change order. As a minimum, the following information shall be submitted by the Contractor with each proposal:

(i) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each;

(ii) an itemization of the requirements of the contract which must be changed if the proposal is adopted and a recommendation as how to make each such change (e.g., suggested revision);

(iii) an estimate of the reduction in performance costs, if any, that will result from adoption of the proposal, taking into account the costs of implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (e) below) and the basis for the estimate;

(iv) a prediction of any effects the proposed change would have on other costs to the Government, such as Government-furnished property costs, costs of related items, and costs of maintenance and operation,

(v) a statement of the time by which a change order adopting the proposal must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract delivery schedule; and

(vi) the dates of any previous submissions of the proposal, the numbers of any Government contracts under which submitted, and the previous actions by the Government, if known.

(c) The Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. The decision of the Contracting Officer as to the acceptance of any such proposal under this contract shall be final and shall not be subject to the "Disputes" clause of this contract. The Contracting Officer may accept, in whole or in part, any cost reduction proposal submitted pursuant to this clause either by issuing a change order to this contract or, if performance has been completed under this contract, by giving written notice of acceptance within a reasonable time thereafter to the Contractor. Unless and until a change order applies a proposal to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. If a proposal is accepted after performance under this contract has been completed, the adjustment required shall be effected by contract modification in accordance with this clause. *The* adjustment made pursuant to this clause shall be the cumulative total of each adjustment authorized in this clause, rather than a selection of alternatives.

(d) If a cost reduction proposal submitted pursuant to this clause is accepted and applied to this contract, an equitable adjustment in the contract price and in any other affected provisions of this contract shall be made in accordance with this clause and the "Changes" clause of this contract. The equitable adjustment shall be established by determining the effect on the Contractor's cost of performance, taking into account the Contractor's cost of implementing the change (including any amount attributable to subcontracts in accordance with paragraph (e) below). When the cost of performance of this contract is reduced as a result of the change, the contract price shall be reduced by the total estimated decrease in the cost of performance minus fifty per cent (50%) of the difference between the amount of such total estimated decrease and any ascertainable collateral costs to the Government which must reasonably be incurred as a result of application of the cost reduction proposal to the contract. When the cost of implementing the change precludes a reduction in the cost of performing this contract, the equitable adjustment increasing the contract price shall be in accordance with the "Changes" clause rather than under this clause.

(e) The Contractor will use his best efforts to include appropriate value engineering arrangements in any subcontract which, in the judgement of the Contractor, is of such a size and nature as to offer reasonable likelihood of value engineering cost reductions. For the purpose of computing any equitable adjustment in the contract price under paragraph (d) above, the Contractor's cost of implementation of a cost reduction proposal which is accepted under this contract shall be deemed to include any implementation costs of a subcontractor and any value engineering incentive payments to a subcontractor, or cost reduction shares accruing to a subcontractor, which clearly pertain to such proposal and which are incurred, paid or accrued in the performance of a subcontract under this contract.

(f) Cost reduction proposals submitted under the provisions of any other contract also may be submitted for consideration under this contract. Notwithstanding any other provision of this clause, where a cost reduction

proposal has been accepted by the Government, prior to its acceptance under this contract, under any other contract with the Contractor for substantially the same items as called for by this contract, the total amount of the equitable adjustment under this contract shall be limited to that provided for in paragraph (d) of this clause.

(g) The Contractor may restrict the Government's right to use any sheet of a value engineering proposal or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet.

> This data furnished pursuant to the Value Engineering Incentive clause of contract ________________ shall not be disclosed outside the Government, or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering proposal submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained from another source, or is otherwise available, without limitations. If such a proposal is accepted by the Government under said contract after the use of this data in such an evaluation, the Government shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such proposal as accepted, in any manner and for any purpose whatsoever, and have others so do.

In the event of acceptance of a value engineering proposal, the Contractor hereby grants to the Government all rights to use, duplicate or disclose, in whole or part, in any manner and for any purpose whatsoever, and to have or permit others to do so, any data reasonably necessary to fully utilize such proposal.

(h) Contract modifications made as a result of this clause will state that they are made pursuant to it.
(ASPR 1-1707.2 (a))

• 51. RIGHTS IN SHOP DRAWINGS (APR. 1966)

(Applicable to all contracts calling for the delivery of shop drawings)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.
(ASPR 18-910.1 (b))

52. GOVERNMENT PROPERTY (FIXED PRICE)
(Jun 1965)

(a) Government-Furnished Property. The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay, in accordance with the procedures provided for in the clause of this contract entitled "Changes." Except for Government-furnished property furnished "as is", in the event the Government-furnished property is received by the Contractor in a condition not suitable for the intended use the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (i) return such property at the Government's expense or otherwise dispose of the property, or (ii) effect repairs or modifications. Upon the completion of (i) or (ii) above, the Contracting Officer upon written request of the Contractor shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by the rejection or disposition, or the repair or modification, in accordance with the procedures provided for in the clause of this contract entitled "Changes." The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b) Changes in Government-furnished Property.

(1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1) above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution, or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

• (c) Title. Title to all property furnished by the Government shall remain in the Government. In order to define the obligations of the parties under this clause, title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor for the Government pursuant to this contract shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property". Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(d) Property Administration. The Contractor shall comply with the provisions of the "Manual for Control of Government Property in Possession of Contractors" (Appendix B, Armed Services Procurement Regulation) as in

effect on the date of the contract, which Manual is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract.

(e) Use of Government Property. The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) Maintenance and Repair of Government Property. The Contractor shall maintain and administer, in accordance with sound industrial practice, a program for the maintenance, repair, protection, and preservation of Government property, until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs; provided, however, that if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Risk of Loss. Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss of or damage to Government property provided under this contract upon its delivery to him or upon passage of title thereto to the Government as provided in paragraph (c) hereof, except for reasonable wear and tear and except to the extent that such property is consumed in the performance of this contract.

(h) Access. The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Final Accounting and Disposition of Government Property. Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government, and shall prepare for shipment, deliver f. o. b. origin, or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid in such other manner as the Contracting Officer may direct.

(j) Restoration of Contractor's Premises. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) shall not be under any duty or obligation to restore or rehabilitate, or to pay the costs of the restoration or rehabilitation of, the Contractor's plant or any portion thereof which is affected by the abandonment or removal of any Government property.

(k) Communications. All communications issued pursuant to this clause shall be in writing or in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation).

(l) Notwithstanding the provisions of (d) above, the Government will maintain the official control records for Government Property provided pursuant to this clause and the Contractor is not required to maintain property control records for such property in accordance with the requirements of the "Manual for Control of Government Property in Possession of Contractors." (ASPR 13-702 (a) and APP 13-1708 (b))

STANDARD FORM 19–A
APRIL 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FPR (41 CFR) 1-16.401

LABOR STANDARDS PROVISIONS

APPLICABLE TO CONTRACTS IN EXCESS OF $2,000

1. DAVIS-BACON ACT (40 U.S.C. 276a–a(7))

(a) All mechanics and laborers employed or working directly upon the site of the work shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Copeland Regulations (29 CFR, Part 3)), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR, Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

2. CONTRACT WORK HOURS STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327–330)

(a) The Contractor shall not require or permit any laborer or mechanic in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour, exclusive of the Contractor's contribution or cost for fringe benefits and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions of paragraph (a) in the sum of $10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

3. APPRENTICES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or, if no such recognized agency exists in a State, under a program registered with the aforesaid Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall be not greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed.

(b) The Contractor shall furnish written evidence of the registration of his program and apprentices as well as of the ratios allowed and the wage rates required to be paid thereunder for the area of construction, prior to using any apprentices in the contract work.

4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) of the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act."

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) which are incorporated herein by reference.

6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of any Contractor for liquidated damages under the clause hereof entitled "Contract Work Hours Standards Act—Overtime Compensation."

(b) If any Contractor fails to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

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SOL-123
(7-64)

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes of labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract by contractors and subcontractors on the work.

The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor,

Charles Donahue
Solicitor of Labor.

GPO : 1964—O-738-498

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD
Chapter 21-5A Series VI
1967

Definitions have been adopted as follows:

(1) Highway Construction:

Highway Construction work is defined as all work ordinarily included in highway construction projects. It includes highway tunnels and bridges, bridge approaches, highway street grading, paving and draining, culverts, manholes, water and other utility pipelines (when included in the contract), sidewalks (when included in the contract), retaining walls, underpasses and overpasses (when included in a highway contract), highway viaducts, clover-leaf structures, curb and sidewalks, fences, and including the erection, dismantling, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with, or serving the aforementioned work.

(2) Heavy Construction:

Heavy Construction and Railroad Construction is defined as construction, substantially in its entirety, and fixed structures, improvement or modification thereof, addition or repair thereto, including any structure or operation which is an incidental part of a contract thereof (not including building or highway construction), including, without limitation, railroad and street railway construction projects, sewers and water mains, retaining walls, viaducts, drainage projects, flood control projects, reclamation projects, airports, athletic fields, reservoirs, water supply projects, water power developments, hydro-electric developments, transmission lines, duct lines, pipelines, locks, dams, dikes, levees, revetments, channels, channel cut-offs, intakes, dredging projects, jetties, breakwaters, docks, harbors, industrial plant sites, excavation and disposal of earth and rock, including the assembly, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with and serving the aforementioned works and services.

(3) Building Construction:

Building Trades rates and conditions shall apply to any building which may be required in the construction, renovation or demolition, of any of the work included where such buildings are customarily constructed under Building Trades Conditions.

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD

Chapter 21-5A Series VI
1967

COVERAGE OF SPECIFIC CLASSES OF WORK IS DEFINED AS FOLLOWS:

A. As an item of construction:

(1) Preliminary Survey Work: Since this work merely affects construction without being a part of it, such work is not generally covered.

(2) Survey Work immediately prior to and during actual Construction: Where surveying is performed immediately prior to and during actual construction, in direct support of construction crews, such surveying is construction work within the meaning of the Prevailing Wage Law.

B. Exploratory Drilling:

(1) Where the drilling was for the purpose of obtaining core borings to be used in engineering studies and planning, the word "works" refers to improvements, such as buildings, canals or roads, rather than to refer to progress or activity. Consequently, mere digging would not appear to be within the term, because it relates to an activity as distinguished from a product or improvement.

(2) Where the soil samples are taken prior to or during construction for the construction contractor, for the purpose of setting foundations, the Commissioner of Labor has held that contracts for such work are considered covered by the Prevailing Wage Law if they may be fairly characterized as being directly related and incidental to, or an integral part of, the actual construction process.

C. Incidental Crafts:

(1) Watchman: Watchmen, where their work is nonmanual in nature, of where they are acting purely in administrative capacities are not "laborers and mechanics" within the contemplation of the Prevailing Wage Law. However, the mere fact that an employee is called a guard, watchman or security policemen does not necessarily mean he is not a laborer. If he actually performs physical or manual work in addition to or in connection with his guarding activities, it may well be that he should properly be classified as a laborer or mechanic for such hours during which he performs laborer's or mechanic's duties. For example, where the duties of a watchman require him to wet down concrete walls and unload materials, the watchman is considered a laborer since performing these acts is a laborer's work.

(2) Flagman: Flagmen who perform no manual labor are not subject to the Prevailing Wage provisions. When flagmen perform in a dual capacity, directing traffic and performing manual jobs, they are covered. Under these circumstances, it will not be necessary to establish an additional classification for flagmen so long as they are classified as laborers and paid the laborer rate. If they perform journeyman's duties, they must be classified and paid the journeyman's rate.

WEST VIRGINIA DEPARTMENT OF LABOR

COUNTY GROUPING FOR LABOR RATES

"A" COUNTIES

BROOKE
CABELL
HANCOCK
HARRISON
JACKSON
KANAWHA
LEWIS
MARION
MARSHALL
MASON
MONONGALIA
OHIO
PLEASANTS
PRESTON
PUTNAM
TYLER
WAYNE
WETZEL
WOOD

"B" COUNTIES

BERKELEY
FAYETTE
LOGAN
MCDOWELL
MERCER
MINGO
RALEIGH
TAYLOR
WYOMING

"C" COUNTIES

BARBOUR
BOONE
BRAXTON
CALHOUN
CLAY
DODDRIDGE
GILMER
GRANT
GREENBRIER
HAMPSHIRE
HARDY
JEFFERSON
LINCOLN
MINERAL
MONROE
MORGAN
NICHOLAS
PENDLETON
POCAHONTAS
RANDOLPH
RITCHIE
ROANE
SUMMERS
TUCKER
UPSHUR
WEBSTER
WIRT

WHD 67

WEST VIRGINIA DEPARTMENT OF LABOR

BUILDING CONSTRUCTION RATES

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Asbestos Workers	5.365	.19	.26	.37 deduc.	.01	
Boilermakers	4.95	.20	.20		.01	
Boilermaker Helpers	4.70	.20	.20		.01	
Bricklayers	4.65					
Carpenters	4.33	.10	.15		.02	
Cement Masons	3.85					
Electricians	4.50	.15	1 % GPR		1/10 of1% GPR	
Elevator Constructors	4.70	7.5	12.5			
Elevator Const. Helpers	3.29	7.5	12.5			
Glaziers	3.25					
Ironworkers:						
Structural	4.95	.20	.15		.01	
Ornamental	4.95	.20	.15		.01	
Reinforcing	4.95	.20	.15		.01	
Laborers:						
General Laborer Foreman	3.90	.10	.10			
Blacksmith	3.65	.10	.10			
Composite Crew (Stacks)	3.55	.10	.10			
Burner	3.40	.10	.10			
Powderman	3.40	.10	.10			
Laborer Foreman	3.40	.10	.10			
Semi-Skilled Laborer:						
Brick Mason Tenders	3.05	.10	.10			
Plasterer Tenders	3.05	.10	.10			
Cement Finisher Tenders	3.05	.10	.10			
Stone Mason Tenders	3.05	.10	.10			
Lathers Tenders	3.05	.10	.10			
Tile Setter Tenders	3.05	.10	.10			
Mortar Mixers	3.05	.10	.10			
Jackhammer Operators	3.05	.10	.10			
Vibrator Operators	3.05	.10	.10			
Tamper Operators	3.05	.10	.10			
Pavement Buster Operators	3.05	.10	.10			
Chipping & Peening Hammer Ops	3.05	.10	.10			
Air Siphon & Air Pump Ops	3.05	.10	.10			
Riprap Finishers	3.05	.10	.10			
Concrete Saw Operators	3.05	.10	.10			
Power Saw Operators	3.05	.10	.10			
Chain Saw Operators	3.05	.10	.10			
Motorized Buggy Operators	3.05	.10	.10			
Pipe Layers	3.05	.10	.10			
Pipe Layer Helpers	3.05	.10	.10			
Drill Operators	3.05	.10	.10			
Drill Operator Helpers	3.05	.10	.10			
Sheeter and Shorers	3.05	.10	.10			
Post Hole Digger Operators	3.05	.10	.10			
Asphalt Rakers	3.05	.10	.10			
Lance Operators	3.05	.10	.10			
Blacksmith Helpers	3.05	.10	.10			
Batch House Scale Operators	3.05	.10	.10			
Workmen Working with Acid	3.05	.10	.10			
Workmen Working with Acid Mortar.	3.05	.10	.10			
Workmen Working with Acid Brick	3.05	.10	.10			
Workmen Working with Creosote	3.05	.10	.10			

Continued on Page Two

WEST VIRGINIA DEPARTMENT OF LABOR

BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Workmen Working with Mastic Asphalt	3.05	.10	10			
Nozzelmen for Gunnite or Sandblasting	3.05	.10	10			
Tool Room Attendants	3.05	.10	10			
Ride or Walk Roller Tampers	3.05	.10	.10			
Common Laborer:						
Common Laborer	2.90	.10	10			
Flagman	2.90	.10	10			
Signal Men	2.90	.10	.10			
Water Boys	2.90	.10	.10			
Demolition Workers	2.90	.10	.10			
Lathers	4.50				.01	
Lead Burners	5.10	.15			.01	
Marble Setters	4.65					
Marble Setter Helpers	3.325					
Millwrights	4.83	.10	15			
Painters:						
Brush:						
Residential	2.75					
Commercial	3.25					
Industrial	3.75					
Structural Steel & Pipe	3.75					
Spray:						
Industrial	4.50					
Commercial	4.50					
Sandblasters	4.50					
Towers	4.50					
Smokestacks	4.50					
Tanks	4.50					
Bridge:						
Brush	4.00					
Spray	4.50					
Sandblast	4.50					
Flagpoles	4.50					
Swing, Chair & Window Jacks/More Per Hr.	.25					
Dry Wall Taper	3.25					
Sign Painter	3.25					
Sign Painter Helper	2.10					
Piledrivers	4.58	.10	.15		.02	
Plasterers	4.00					
Plumbers	4.30	.10	.15	.10	.02	
Roofers:						
Composition	4.25					
Slate & Tile	4.25					
Sheet Metal Workers	4.40				.01	
Soft Floor Layers	4.33	.10	.15		.02	
Sprinkler Fitters	4.525	.11	.10			
Steam Fitters	4.55	.10	.15	.10	.03	
Stone Masons	4.65					
Terrazzo Workers	4.65					
Terrazzo Worker Helpers	3.325					
Tile Setters	4.65					
Tile Setter Helpers	3.325					

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Continued on Page Three

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Operating Engineers:						
All cranes, shovels, draglines, clamshell, derricks, & similar equipment 4 C/Y capacity or more or having 175 feet or more boom, and tower cranes..............	4.49	.10	.20		.02	
All types shovel, crane and backhoe operator, Material Hoist (2 or 3 drum), Derrick (all types), Mechanic, Crade-All, Wellpoint System, Concrete Mixing Plant Opr., Tug or Towboat Opr., Elevator, and Core Drill Opr..	4.24	.10	.20		.02	
Side Boom Car, High Lift & Fork Lift...........................	4.165	.10	.20		.02	
Trench Excavator & Concrete Pump Opr. (double)..................	4.065	.10	.20		.02	
High Compression Equipment........	4.065	.10	.20		.02	
Standard Locomotive...............	3.965	.10	.20		.02	
Air Tugger & Concrete Mixer (2 bag)...........................	3.915	.10	.20		.02	
Material Hoist (1 drum), Brick Tote Machine, Concrete Pump Opr. (single), A Frame Truck, Ross Carrier, Rubber Tired Scrappers, & Power Grader.................	3.865	.10	.20		.02	
Bull Dozer, Oiler-Stand., Gauge Locomotive & Locomotive Crane, Tractor & Pan Scrapper, Push Cat & Grease Truck Operator.........	3.765	.10	.20		.02	
Wellpoint System Installer........	3.715	.10	.20		.02	
All Tractors......................	3.665	.10	.20		.02	
Fireman...........................	3.465	.10	.20		.02	
Road Roller & Concrete Mixes (1 bag)...........................	3.315	.10	.20		.02	
Barber Greene Loader, Oiler, & Deck Hand......................	3.265	.10	.20		.02	
Mechanic Helper...................	3.165	.10	.20		.02	
Air Compressor Opr., Electric Welding Machine (gasoline powered)..	2.915	.10	.20		.02	
Air Compressor (600 or over)......	4.165	.10	.20		.02	
Light Plant & Generator...........	2.915	.10	.20		.02	
Conveyor..........................	2.865	.10	.20		.02	
Mechanical Heater & Pump Operator.	2.765	.10	.20		.02	
Truck Drivers:						
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up...............	3.25	.10	17.33 per mo.			
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yds), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen & Mech. Helpers (truck).	3.35	.10	17.33 per mo.			

Continued on Page Four

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yds.), Dump Trucks and Dumpsters (5 yds. to 12 yds.)....	3.55	.10	17.33 per mo.			
Agitators or Mixer Trucks (over 5 yards)...........................	3.65	.10	17.33 per mo.			
Rubber-Tired Tractors (towing or pushing).........................	3.65	.10	17.33 per mo.			
Dump Trucks and Other Hauling Equipment (12 yds. to 20 yds.), Mucker Trucker.........................	3.65	.10	17.33 per mo.			
Dump Trucks and Other Hauling Equipment (20 yds. and over)..........	4.03	.10	17.33 per mo.			
"A" Frame Operator.................	4.03	.10	17.33 per mo.			
Mechanics (truck), Foremen and/or Dispatchers......................	3.65	.10	17.33 per mo.			

NOTE: Double Hitched Equipment operated by one driver shall pay 50% more than the wages set out above.

APPRENTICE SCHEDULE
PERIOD AND RATE

The apprentice rate is by percentage of the Journeyman's rate unless otherwise indicated.

CRAFT	INTERVAL	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
ASBESTOS WORKERS	Yearly										
BRICKLAYERS	6 Months	50	50	65	70	75	80	85	95		
CARPENTERS	Yearly	68	73	79	83						
CEMENT MASONS	6 Months										
ELECTRICIANS	Yearly	50	60	70	80						
GLAZIERS	Yearly	71	77	85							
IRONWORKERS	6 Months	60	70	75	80	85	90				
LATHERS	Yearly	53	67	82							
LEAD BURNERS											
MILLWRIGHTS	Yearly										
PAINTERS	Yearly	65	70	77							
PLASTERERS											
PLUMBER & FITTER	6 Months	50	55	60	65	70	75	80	85	90	95
ROOFERS	6 Months	65	70	75	80	85	90				
SHEET METAL	6 Months	45	50	55	60	65	70	75	80		

NOTE: The Wage Determination Decision shall be posted by the contractor at the site of the work in a prominent place where it can be easily seen and read by the workers.

ADDENDUM HH-2B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

BRICKLAYERS

"A" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BROOKE	- 5.10	.10		
CABELL	- 4.85		.35 ded.	20.00/yr.
HANCOCK	- 5.10	.10		
HARRISON	- 4.65			
JACKSON	- 4.70			
KANAWHA	- 4.85			
LEWIS	- 4.65			
MARION	- 4.30			
MARSHALL	- 4.925	.10		
MASON	- 4.85		.35 ded.	20.00/yr.
MONONGALIA	- 4.70			
OHIO	- 4.925	.10		
PLEASANTS	- 4.70			
PRESTON	- 4.70			
PUTNAM	- 4.85			
TYLER	- 4.925	.10		
WAYNE	- 4.85		.35 ded.	20.00/yr.
WETZEL	- 4.925	.10		
WOOD	- 4.70			

"B" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BERKELEY -	4.55			
FAYETTE -	4.85			
LOGAN -	4.85		.35 ded.	
McDOWELL -	4.85		.35 ded.	20.00/yr.
MERCER -	4.00			
MINGO -	4.85		.35 ded.	20.00/yr.
RALEIGH -	4.85			
TAYLOR -	4.65			
WYOMING -	4.00			

"C" COUNTIES

	RATE				RATE
BARBOUR -	4.50	HAMPSHIRE -	4.20	POCAHONTAS -	4.50
BOONE -	4.85	HARDY -	4.50	RANDOLPH -	4.50
BRAXTON -	4.85	JEFFERSON -	4.55	RITCHIE -	4.70
CALHOUN -	4.70	MINERAL -	4.20	ROANE -	4.70
CLAY -	4.85	MONROE -	4.00	SUMMERS -	4.85
DODDRIDGE -	4.65	MORGAN -	4.55	TUCKER -	4.50
GILMER -	4.65	NICHOLAS -	4.85	UPSHUR -	4.65
GRANT -	4.50	PENDLETON -	4.50	WEBSTER -	4.65
GREENBRIER -	4.85			WIRT -	4.70

	RATE	VACATION	APPRENTICE TRAINING
LINCOLN -	4.85	.35 deducted	$20.00 per year

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
ALL COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications	4.83	.15	.10	.02
CLASS II:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine	4.33	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scraper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor	3.88	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant	3.73	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine	3.53	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Heavy Construction the following	4.08	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer	3.33	.15	.10	.02

LABORERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	4.10	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker	3.85	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer	3.65	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	3.46	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	3.31	.10	.10
CLASS VI:	Watchman	3.00	.10	.10

TEAMSTERS

	RATE	H&W
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	3.41	.10
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen and Mechanic Helpers (truck)	3.51	.10
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.66	.10
Rubber-Tired Tractors (towing or pushing)	3.87	
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.92	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yard or over)	4.02	.10
"A" Frame Operator	4.12	.10
Mechanics (truck), Foremen and/or Dispatchers	4.17	.10

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967

Bricklayers - Stone - See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.28	.10	.15	3.82	.10	.15
Pile Drivers	4.48			4.02		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.48	4.12	4.07
Cement Mason Helpers	First	3.46	3.10	3.05
	Second	3.87	3.51	3.46
	Third	4.63	3.92	3.86

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications	4.73	.15	.10	.02
CLASS II:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine	4.23	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scraper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor	3.78	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant	3.63	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine	3.43	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Highway Construction the following	3.98	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer	3.23	.15	.10	.02

LABORERS

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	4.00	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker	3.75	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer	3.55	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	3.36	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	3.21	.10	.10
CLASS VI:	Watchman	2.90	.10	.10

TEAMSTERS	RATE	H&W
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	3.26	.10
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen and Mechanic Helpers (truck)	3.36	.10
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.51	.10
Rubber-Tired Tractors (towing or pushing)	3.72	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.77	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yards or over)	3.87	.10
"A" Frame Operator	3.92	.10
Mechanics (truck), Foremen and/or Dispatchers	4.02	.10

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967

Bricklayers -Stone- See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.18	.10	.15	3.46	.10	.15
Pile Drivers	4.38			3.67		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.38	3.76	3.71
Cement Mason Helpers	First	3.46	2.93	2.92
	Second	3.76	3.13	3.32
	Third	4.17	3.74	3.73

ADDENDUM HH-1B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

IRON WORKERS

"A" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BROOKE -		4.95	.20	.15	.01
CABELL -		5.05	.20	.25	.01
HANCOCK -		4.95	.20	.15	.01
HARRISON -		4.95	.20	.15	.01
JACKSON -		5.10	.20	.25	.01
KANAWHA -		4.75	.20	.25	
LEWIS -		5.10	.20	.25	.01
MARION -		4.95	.20	.15	.01
MARSHALL -		4.95	.20	.15	.01
MASON -		5.10	.20	.25	.01
MONONGALIA -		4.95	.20	.15	.01
OHIO -		4.95	.20	.15	.01
PLEASANTS -		5.10	.20	.25	.01
PRESTON -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
PUTNAM -		4.75	.20	.25	
TYLER -		4.95	.20	.15	.01
WAYNE -		5.05	.20	.25	.01
WETZEL -		4.95	.20	.15	.01
WOOD -		5.10	.20	.25	.01

"B" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BERKELEY-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
FAYETTE -		4.75	.20	.25	
LOGAN -		4.75	.20	.25	
McDOWELL-		4.75	.20	.25	
MERCER -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MINGO -		5.05	.20	.25	.01
RALEIGH -		4.75	.20	.25	
TAYLOR -		4.95	20	.15	.01
WYOMING -		4.75	.20	.25	

"C" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BARBOUR -		4.95	.20	.15	.01
BOONE -		4.75	.20	.25	
BRAXTON -		4.75	.20	.25	
CALHOUN -		5.10	.20	.25	.01
CLAY -		4.75	.20	.25	
DODDRIDGE -		5.10	.20	.25	.01
GILMER -		5.10	.20	.25	.01
GRANT -	Str.	4.60	.10	.10	
	Orn.	4.60	10	.10	
	Rein.	4.45	.10	.10	
GREENBRIER-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
HAMPSHIRE-	Str.	4.60	.10	10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	10	
HARDY -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
JEFFERSON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
LINCOLN -		4.75	20	.25	
MINERAL -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	10	
MONROE -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MORGAN -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
NICHOLAS-		4.75	.20	.25	
PENDLETON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
POCAHONTAS-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
RANDOLPH -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
RITCHIE -		5.10	.20	.25	.01
ROANE -		5.10	.20	.25	.01
SUMMERS -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
TUCKER -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
UPSHUR -		5.10	.20	.25	.01
WEBSTER -		4.75	.20	.25	
WIRT -		5.10	.20	.25	.01

ADDENDUM HH-3B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
"A" COUNTIES
1967

PAINTERS

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
BROOKE	4.00	4.35	4.35	
CABELL	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
HANCOCK	4.00	4.35	4.35	
HARRISON	4.00	4.50	4.50	
JACKSON	4.25	4.75	4.75	
KANAWHA	4.625	4.975	4.875	
MARION	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	
MARSHALL	3.90	4.20	4.20	.10
MASON	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
MONONGALIA	5.50 to 200' .75 more for each 100'	5.50 to 200' .75 more for each 100'	5.50 to 200' .75 more for each 100'	
OHIO	3.90	4.20	4.20	.10
PLEASANTS	4.25	4.75	4.75	

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
PUTNAM	4.625	4.975	4.875	
TYLER	4.25	4.75	4.75	
WAYNE	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
WETZEL	3.90	4.20	4.20	.10
WOOD	4.25	4.75	4.75	
LEWIS	4.00	4.50	4.50	
PRESTON	5.50 to 200' .75 more each 100'	5.50 to 200' .75 more each 100'	5.50 to 200' .75 more each 100'	

STANDARD FORM 21
DECEMBER 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

BID FORM
(CONSTRUCTION CONTRACT)

REFERENCE

Read the Instructions to Bidders (Standard Form 22)
This form to be submitted in

DATE OF INVITATION

NAME AND LOCATION OF PROJECT

NAME OF BIDDER *(Type or print)*

(Date)

TO: U.S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N.W.
Washington, D.C. 20242

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work for remedial construction on Mine No. 62-067.

in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), specifications, schedules, drawings, and conditions, for the following amount(s)

Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		
2.	Excavation	1,600	C.Y.		
3.	Preparation of Opening		L.S.*		
4.	Expendable Grout Retainer Slurry (Opening 1, 2, 4)	5,100	C.F.		
5.	Plugging Concrete Pipe (Opening 3)	40	C.F.		
6.	Hole Drilling - 4-3/4"	200	L.F.		
7.	Drilling Standby	4	Hrs.		
8.	Mine Opening #5 - Dye	5	Lb.		
	Mine Opening #5 - Slurry	380	C.F.		
9.	Filling Subsided Areas - Slurry	12,100	C.F.		
10.	Recontouring Subsided Areas		L.S.*		
11.	Monitoring		L.S.*		
			TOTAL		

* Lump Sum

(Continue on other side)

NOTES: (1) All quantities are estimated except where unit is given as "Lump Sum" or "Each".

(2) All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.

(3) If a bid or modification to a bid based on unit prices is submitted and provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price, including lump sum units, in the bid schedule must be stated or if it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within 30 calendar days (calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within 10 calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety.

The undersigned agrees, if awarded the contract, to commence the work within fifteen (15) calendar days after the date of receipt of notice to proceed, and to complete the work within calendar days after the date of receipt of notice to proceed.

RECEIPT OF AMENDMENTS *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

Plant of the character and in the amount required to complete the work within the specified time*(is) *(is not) available and under control of the Bidder.

* (Cross out one).

The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.

ENCLOSED IS BID GUARANTEE, CONSISTING OF

IN THE AMOUNT OF

NAME OF BIDDER *(Type or print)*

BUSINESS ADDRESS *(Type or print) (Include "ZIP Code")*

BY *(Signature in ink. Type or print name under signature)*

TITLE *(Type or print)*

FULL NAME OF ALL PARTNERS *(Type or print)*

DIRECTIONS FOR SUBMITTING BIDS: *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

CAUTION—Bids should not be qualified by exceptions to the bidding conditions.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1966 O—221-124

PLANT AND EQUIPMENT SCHEDULE
(To be attached to Standard Form 21)

*Available Plant to be Used

No.	Type	Capacity	Manufacturer	Age & Condition	Location

Note: *Provide separate table for each type of equipment such as excavation, pile driving, concrete handling, material handling, etc. Use separate line for each major item. Use additional pages if necessary.

STANDARD FORM 19-B DECEMBER 1965 EDITION GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.401	**REPRESENTATIONS AND CERTIFICATIONS** **(Construction Contract)** **(For use with SF 19 and 21)**	REFERENCE *(Enter same No.(s) as on SF 19/21)*

NAME AND ADDRESS OF BIDDER (*No., Street, City, State, and ZIP Code*)	DATE OF BID

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. *(Check appropriate boxes.)*

1. SMALL BUSINESS

He ☐ is, ☐ is not, a small business concern. *(For this purpose, a small business concern is a business concern, including its affiliates, which (a) is independently owned and operated, (b) is not dominant in the field of operation in which it is bidding on Government contracts, and (c) had average annual receipts for the preceding 3 fiscal years not exceeding $7,500,000. For additional information see governing regulations of the Small Business Administration.)*

2. CONTINGENT FEE

(*a*) He ☐ has, ☐ has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (*b*) he ☐ has, ☐ has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (*a*) and (*b*) above as requested by the Contracting Officer. *(For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)*

3. TYPE OF ORGANIZATION

He operates as an ☐ individual, ☐ partnership, ☐ joint venture, ☐ corporation, incorporated in State of ______________________________

4. INDEPENDENT PRICE DETERMINATION

(*a*) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor, and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(*b*) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above.

(*c*) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(*d*) A bid will not be considered for award where (*a*)(1), (*a*)(3), or (*b*) above, has been deleted or modified. Where (*a*)(2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS $10,000 IN AMOUNT.

5. EQUAL OPPORTUNITY

He ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he ☐ has, ☐ has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards. *(The above representation need not be submitted in connection with contracts or subcontracts which are exempt from the clause.)*

6. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(*a*) Is the bidder owned or controlled by a parent company as described below? ☐ Yes ☐ No. *(For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)*

(*b*) If the answer to (*a*) above, is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY	MAIN OFFICE ADDRESS *(No., Street, City, State, and ZIP Code)*

(*c*) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) *(Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941)*, or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF ▶	PARENT COMPANY	BIDDER

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

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PART II - SPECIAL PROVISIONS

SP-1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK: The Contractor will be required to commence work under this contract within fifteen (15) calendar days after the date of receipt by him of notice to proceed, to prosecute said work diligently, and to complete the entire work ready for use in accordance with the following schedule:

Work to be Performed	Completion Time After Notice to Proceed	Liquidated Damages Each Calendar Day
1. Complete site layouts, finish clearing and grubbing, and perform initial excavation on Opening No. 1 to initiate drainage.	23 Calendar Days	$60.00
2. Complete plugging of Opening No. 3, complete drilling and remedial work on Opening No. 5 and the filling and recontouring of subsided areas.	30 Calendar Days	$60.00
3. Complete remedial work for Openings 1, 2 and 4.	38 Calendar Days	$60.00
4. Complete final cleanup & removal of construction facilities.	40 Calendar Days	$30.00

See Section I - Construction General - for Order of Work.

SP-2. LIQUIDATED DAMAGES: In case of failure on the part of the Contractor to complete the work within the time fixed in the contract or any extensions thereof, the Contractor shall pay to the Government as liquidated damages, pursuant to Paragraph 5, General Provisions, entitled "Termination for Default - Damages for Delay - Time Extensions", the sums set forth in paragraph SP-1 for each calendar day of delay until the work is completed or accepted.

SP-3. CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS:

a. Five sets of Contract Drawings, maps and specifications will be furnished the Contractor without charge except applicable publications incorporated into the Technical Provisions by reference. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the following Contract Drawings and maps, all of which form a part of these specifications and are available in the office of the Project Officer, Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia 26003:

Title	Drawing No.	Date
Vicinity and Mine Site Map	102-1	September, 1967
Work Site I - Opening No 1	102-2	September, 1967
Work Site II - Opening No. 2	102-3	September, 1967
Work Site III - Opening No. 3	102-4	September, 1967
Work Site IV - Opening No. 4	102-5	September, 1967
Work Site V - Opening No. 5	102-6	September, 1967
Mine Plug - Expendable Grout Retainer	101-6	September, 1967
Dimensional Specifications - Expendable Grout Retainer	101-7	September, 1967
Assembly - Expendable Grout Retainer	101-8	September, 1967

b. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

c. The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Project Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

SP-4. SHOP DRAWINGS: The Contractor shall submit to the Project Officer for approval, one print and one reproducible of all shop drawings as called for under the contract. These drawings shall be complete and detailed. If approved by the Project Officer, each copy of the reproducibles will be identified as having received such approval by being so stamped and dated. The Contractor shall make any corrections required. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or specifications, notice as required under the clause entitled "Changes" will be given to the Project Officer. The prints of all shop drawings will be retained and the reproducibles will be returned. The approval of the

drawings by the Project Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of the responsibility for any error which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. Upon completion of work under this contract, the Contractor shall furnish a complete set of process tracings together with one (1) complete set of black and white prints of all drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted, and shall be of sufficient clarity for microfilm copying. The contract will not be considered complete, and final payment will not be made until satisfactory prints and tracings have been received.

a. Catalog and Descriptive Data: The Contractor shall submit to the Project Officer for approval three (3) sets of catalog data, descriptive literature and specifications for all equipment and material furnished and specifically required under the technical provisions of the contract. If approved, one (1) set of the data will be returned to the Contractor so marked and dated. If the material or equipment proposed is not approved, the Contractor shall make the required corrections or additions and submit three (3) additional sets of the revised data for approval.

SP-5. PHYSICAL DATA: Information and data furnished or referred to below are furnished for the Contractor's information. However, it is expressly understood that the Government will not be responsible for any

interpretation or conclusion drawn therefrom by the Contractor.

a. The Physical Conditions indicated on the drawings and in the specifications are the result of site investigations by surveys, tests and explorations. The data shown represents the actual geologic features observed and logged at the location given on the drawings. While the reports are representative of conditions at their respective locations, local minor variations are anticipated and if encountered, such variations will not be considered as differing "materially" within the purview of General Provision No. 4 of the contract.

b. Weather Conditions at the site of the work are listed on the Weather Chart attached at the end of the Special Provisions Section.

c. Transportation Facilities: It shall be the responsibility of the Contractor to visit the site of the work and examine the transportation facilities as they apply to his own needs. The facilities in the vicinity of the project are as follows:

(1) Existing Roads: The area is served by Federal Highway 19 & 50 and State Highway 20. Federal Highway 19 passes by the project site.
(2) Existing Rail Facilities: The Baltimore & Ohio Railroad passes through the project area.

SP-6. VARIATIONS IN ESTIMATED QUANTITIES: Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of such pay item varies more than fifteen (15) percent above or below the estimated quantity stated in this contract, as it may hereafter be modified, an equitable adjustment in the contract unit price shall be made upon demand of either party. If the quantity variation is such as to cause an increase in the time necessary for completion, the Project Officer

shall, upon receipt of a written request for an extension of time within ten (10) days from the beginning of such delay, or within such further period of time which may be granted by the Project Officer prior to the date of final settlement of the contract, ascertain the facts and make such adjustment for extending the completion date as in his judgment the findings justify. If the parties fail to agree upon equitable adjustment in the contract price or time, the dispute shall be determined as provided in the General Provision 6 of this contract entitled "Disputes".

SP-7. LAYOUT OF WORK:

a. The Government will establish the following base lines and bench marks at the site of the work:

(1) Base lines and control points so that alignment for construction operations can be produced by the Contractor.

(2) Bench marks where necessary so the Contractor may extend for construction operations.

b. From the base lines and bench marks established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the Contract Drawings, subject to such modifications as the Project Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

c. The Contractor shall furnish, at his own expense, such stakes,

templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the base lines and bench marks established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Project Officer until authorized to remove them; and if such marks are destroyed, by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the Project Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Project Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

SP-8. QUANTITY SURVEYS:

a. The Government will make original and final surveys and make computations to determine the quantities of work performed or finally in place.

b. The Contractor shall make such surveys and computations as are necessary to determine the quantities of work performed or placed during each period for which a progress payment is to be made. All original field notes, computations and other records taken by the Contractor for the purpose of progress surveys shall be furnished promptly to the Project Officer and shall be used to the extent necessary in determining the proper amount of progress payments due to the Contractor. Unless waived in each specific case, quantity surveys made by the Contractor shall be made under

the direction of the Project Officer.

SP-9. SCHEDULING AND DETERMINATION OF PROGRESS:

a. Independent of progress payments made pursuant to the General Provision entitled "Payments to Contractor", progress schedules prepared under the requirements of General Provision 35 entitled, "Progress Charts and Requirements for Overtime Work", shall provide as scheduled progress only 30 percent of the estimated invoiced cost of materials or equipment delivered to the site but not incorporated in the work as of the time of the scheduled delivery thereof.

b. In determining progress accomplished, the Project Officer will allow as an element of work accomplished (progress toward completion) only 30 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated in the construction up to the time the materials or equipment are actually incorporated in the work.

SP-10. TIME EXTENSIONS: Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended for only those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages pursuant to the new completion schedule.

SP-11. PAYMENT: Payment for the various items listed in the Bidding Schedule shall constitute full compensation for furnishing all plant, labor, equipment, appliances and materials, and for performing all operations required to complete the work in conformity with the drawings and specifications. All costs in connection with work not specifically mentioned in the Bidding Schedule shall be included in the contract prices for the items listed.

SP-12. DAMAGE TO WORK: The responsibility for damage to any part of the permanent work shall be as set forth in General Provision 12 entitled "Permits and Responsibilities". However, if, in the judgment of the Project Officer, any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs as ordered by the Project Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Project Officer, there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to General Provisions 3 of the contract entitled "Changes" will be made as full compensation for the repairs of the part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be

repaired to the satisfaction of the Project Officer at the Contractor's expense, regardless of the cause of such damage.

SP-13. CERTIFICATES OF COMPLIANCE: Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies unless otherwise specified. Each certificate shall be signed by an authorized officer of the manufacturing company and shall contain the name and address of the Contractor, the project name and location and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the test to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

SP-14. MODIFICATION PROPOSALS - PRICE BREAKDOWN: The Contractor shall furnish a price breakdown with his proposal in connection with a contract modification itemized as required by the Project Officer. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract and overhead costs, as well as profit, and shall cover all work involved to accomplish the modification, whether deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a

justification therefor shall also be furnished. The proposal together with the price breakdown and time extension justification shall be furnished by such date as may be specified by the Project Officer.

SP-15. AUTHORIZED REPRESENTATIVE OF THE CONTRACTING OFFICER: The Project Officer shall be designated as an authorized representative of the Contracting Officer in all matters pertaining to direction of the work, and as such is authorized to perform inspection for acceptance and acceptance of materials and services to be provided by the Contractor.

SP-16. SPECIAL SAFETY REQUIREMENTS: The following requirements are supplementary to General Provision 40, Accident Prevention, and to the safety recommendations included in the Corps of Engineers "General Safety Requirements", manual EM 385-1-1, which shall be considered minimum requirements in the administration of this contract. The Contractor, when directed to do so, shall collaborate with the Project Officer and prepare an outline of a plan indicating what specific measures he will take to combat specific hazards anticipated on major phases of construction.

a. Fire Protection:

(1) Temporary heating devices which are of the open-flame type, with the exposed fuel below the flame, and using such fuels as coke, oil or wood are strictly forbidden. Temporary heating devices shall not be left unattended while being operated at night or on non-work days or shifts.

(2) All tarpaulins used for enclosures around structures and work areas shall be flameproofed.

b. Grounding of Electrical Equipment: All electrical construction equipment, including portable hand tools, cable and apparatus, shall be grounded by a separate grounding conductor other than the service cords or by a multiple cord containing a separate ground conductor, all in accordance with the requirements of the latest edition of the National Electrical Code.

c. Hauling Equipment: All hauling equipment (except rubber-tired and crawler-type tractor and scraper units) shall be equipped with the manufacturer's standard cabs or cabs approved by the Project Officer, provided that cabs have a steel frame with doors, safety glass windows, and windshield wipers. Water trucks, grease trucks and other similar equipment are considered hauling units. All cabs shall be maintained in first-class condition. Tractors and scrapers, as excepted above, when loaded from above, shall be provided with adequate overhead protection.

d. Hard Hats: The Contractor shall furnish and enforce the use of protective headgear (hard hats) for all persons working on or visiting work performed under this contract. Hard hats shall be worn from the start of the project until completion unless otherwise approved by the Project Officer.

e. Boom Stops: On all machines where boom stops are required, they shall be of the telescopic shock-absorbing type.

f. Clearing Equipment: Bulldozers and other similar equipment shall have suitable shields or guards attached which will protect operators from falling trees or falling or flying limbs, broken cables and similar hazards. Minimum standards for shields and guards on clearing equipment will be those set forth in attached Plate 3, Tractor Canopies.

g. Carbon Tetrachloride: The use of carbon tetrachloride for cleaning purposes or as a fire extinguishing agent is prohibited.

h. Visitors: It shall be the responsibility of the Contractor to prevent possible injury to visitors at the project site. Suitable barriers, warning signs and directives shall be placed to direct persons not engaged in the work away from areas of danger. Proper guidance shall be set up where feasible to direct visitors into established areas of safety.

i. Safety Sign: The Contractor shall furnish a safety sign constructed in accordance with attached Plate 4. The sign shall be erected at the project site by the Contractor with the exact location to be determined by the Project Officer. The sign will not be considered for direct payment.

SP-17. CONTRACTOR QUALITY CONTROL: The Contractor shall provide and maintain an effective quality control program that complies with General Provision 23 of the contract entitled "Contractor Inspection System".

a. The Contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of his subcontractors, to ensure conformance to applicable specifications

and drawings with respect to the materials, workmanship, construction, finish, functional performance, and identification.

b. The Contractor shall furnish to the Project Officer within 15 days after receipt of Notice to Proceed a quality control plan which shall include the procedures and instructions to be used. A daily report, similar to the Construction Quality Control Report attached at the end of the Special Provisions Section, shall be used by the Contractor for his report to the Project Officer.

c. Unless specifically authorized by the Project Officer, no construction will be started until the Contractor's quality control plan is approved.

SP-18. PERFORMANCE OF WORK BY CONTRACTOR: The Contractor shall perform on the site, and with his own organization, work equivalent to at least fifty percent (50%) of the total amount of work to be performed under the contract. If, during the progress of work hereunder, the Contractor requests a reduction in such percentage; and the Project Officer determines that it would be to the Government's advantage, the percentage of work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Project Officer, and further provided that the Contractor furnishes adequate additional superintendence which is occasioned by the increase in subcontractors.

SP-19. INSURANCE REQUIRED:

a. The Contractor shall procure and shall maintain during the entire

period of performance under this contract the following minimum insurance: Contractors performing work within a Government installation shall furnish a statement attesting to the existence of insurance for bodily injury and property damage, in addition to legally required insurance of Comprehensive, General Liability and Automobile Liability Insurance. Such evidence of insurance shall be furnished to the Project Officer and shall be in such limits as is deemed reasonable under the circumstances. In no event shall these limits be less than $5,000 for property damage. Where the Financial Responsibility for Compulsory Insurance Law of the state in which the installation is located requires higher limits, the Automobile Liability insurance policy shall provide coverage for at least those limits. Prior to the commencement of work hereunder, evidence of insurance shall be furnished in a form satisfactory to the Project Officer. In addition, the Contractor shall furnish evidence of a commitment by the insurance company to notify the Project Officer in writing of any material change, expiration or cancellation of any of the insurance policies required hereunder not less than 10 days before such change, expiration or cancellation is effective, unless otherwise required by state law.

b. Unless the insurance coverage carried by the Contractor pursuant to _a_ above specifically includes all subcontractors, the Contractor shall require each subcontractor performing work hereunder to procure and maintain during the entire period of its performance under this contract the types and minimum amounts of insurance coverage as stated in

a above. Evidence of such subcontract insurance coverage shall be furnished to the Contracting Officer with the statement as to subcontractors required under General Provision 36 entitled "Subcontractors".

WEATHER CONDITIONS at the site of the work are approximately as listed below. Complete weather records and reports may be obtained from the U.S. Weather Bureau. On the basis of Weather Bureau records available in the Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia, the following weather summary is listed for convenience:

CLIMATOLOGICAL DATA
ANNUAL SUMMARY 1966
CLARKSBURG STATION, HARRISON COUNTY
WEST VIRGINIA. LATITUDE 38° 27'
LONGITUDE 81° 05'. ELEVATION 977'

Month	Average Temperature (°F) & Departure From Normal		Total Precipitation (in inches) and Departure From Normal	
	Avg.	Dep.	Avg.	Dep.
Jan.	24.7	-7.8	3.96	.54
Feb.	32.1	- .8	3.66	.75
Mar.	42.9	3.1	1.06	-2.34
Apr.	49.6	-1.8	5.00	1.69
May	58.5	-3.1	1.37	-2.62
June	69.2	-1.2	1.94	-2.38
July	74.6	1.1	2.76	-1.81
Aug.	70.6	-1.5	3.61	- .85
Sept.	61.4	-4.0	3.16	- .04
Oct.	49.3	-4.5	1.38	-1.20
Nov.	43.3	1.5	3.04	.45
Dec.	33.7	.4	1.79	-1.24
Annual	50.8	-1.6	32.73	-9.05
Highest Temp.	100°	7-3-66		
Lowest Temp.	-8°	2-1-66		

CONTRACTOR'S NAME
(Address)

(Daily)
(Biweekly) CONSTRUCTION QUALITY CONTROL REPORT
(Weekly)

DATE:____________________ Report No.________

Contract No.____

Description and Location of Work:________________________________

WEATHER: (Clear) (P. Cloudy) (Cloudy); Temperature: ____Min., _____Max.
Rainfall_________inches

Contractor/Subcontractors and Area of Responsibility

a.____
b.____
c.____
d.____
e.____
f.____
g.____

1. Work Performed Today: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in table above.)

____

2. Results of Surveillance: (Include satisfactory work completed, or deficiencies with action to be taken.)

____

3. Tests Required by Plans and/or Specifications Performed and Results of Tests:

____

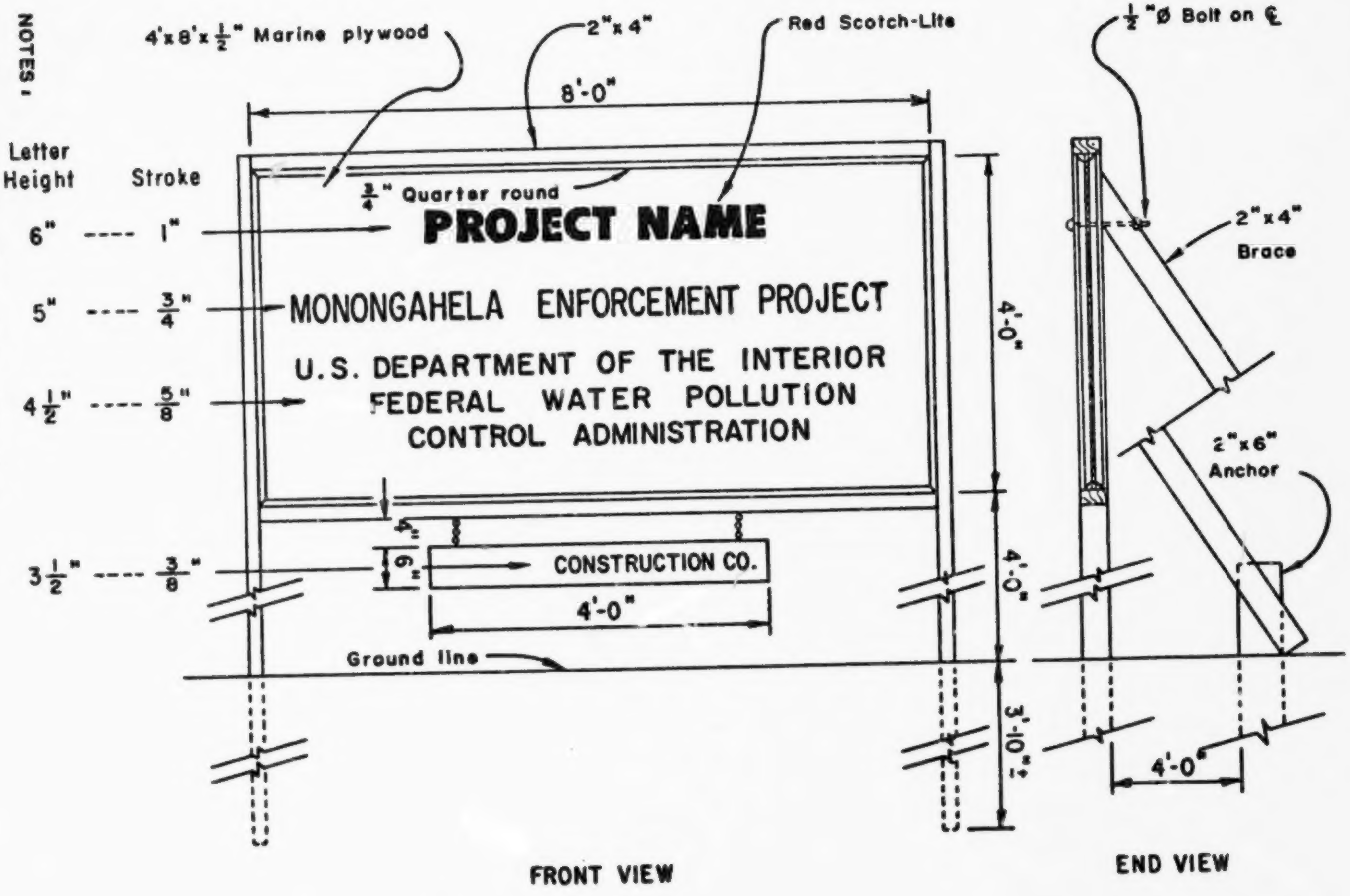
4. Verbal Instructions Received: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. Remarks: (Cover any conflicts in plans, specifications, or instructions.)

Inspector

CONTRACTOR'S VERIFICATION: The above report is complete and correct and all material and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications except as noted above.

Contractor's Approved Authorized Representative

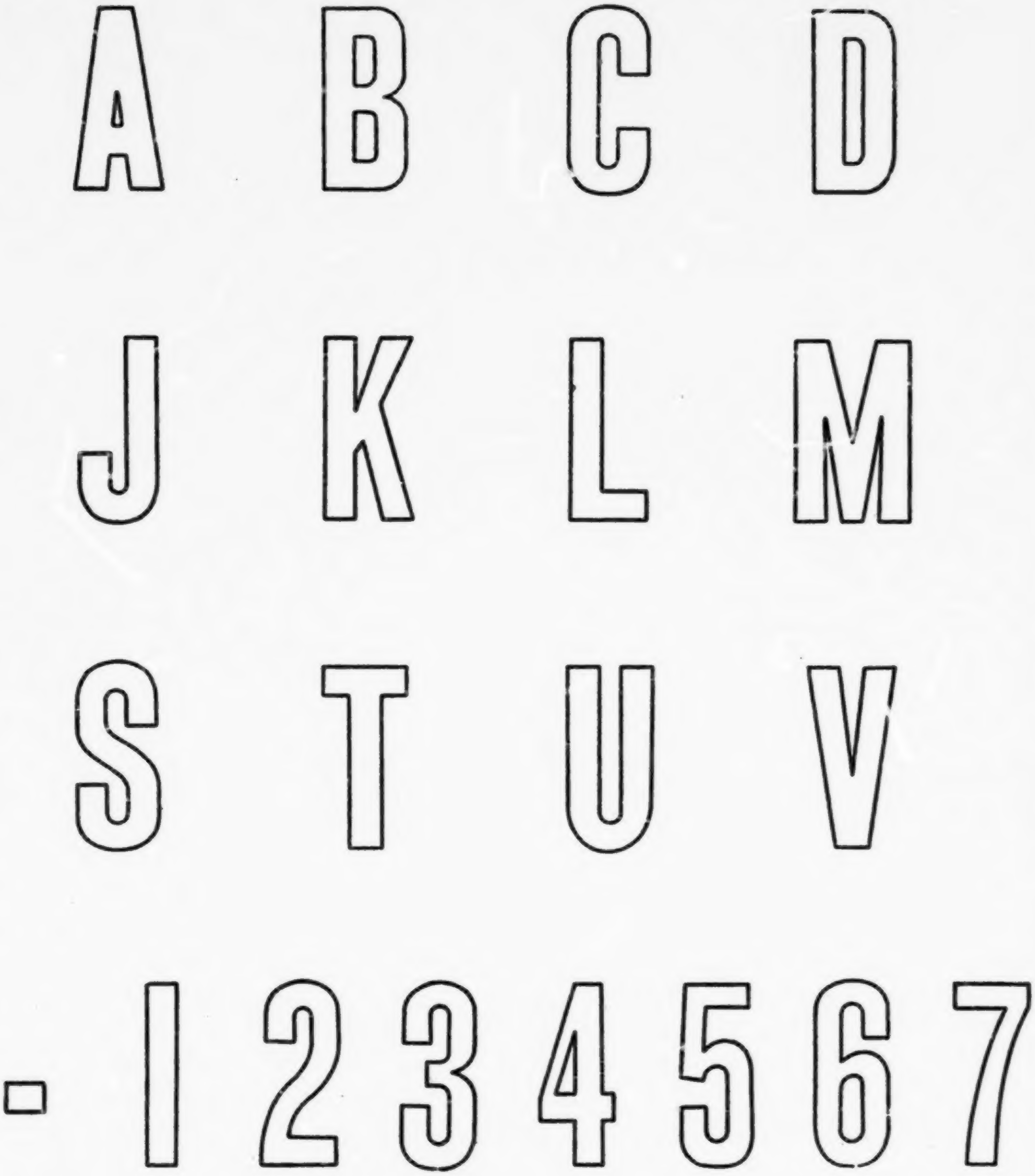

4'x8'x½" Marine plywood
2"x4"
Red Scotch-Lite
½"Ø Bolt on ℄
8'-0"
¾" Quarter round
Letter Height
Stroke
6" ---- 1"
5" ---- ¾"
4½" ---- ⅝"
3½" ---- ⅜"
PROJECT NAME
MONONGAHELA ENFORCEMENT PROJECT
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
4"
6"
CONSTRUCTION CO.
4'-0"
Ground line
4'-0"
4'-0"
3'-10"±
2"x4"
Brace
2"x6"
Anchor
4'-0"
FRONT VIEW
END VIEW

NOTES:

1. Before painting, surface to be clean, dry, free from grease and sanded.
2. Paint with one prime coat zinc oxide conforming to Fed. Specs. TT-P-641 and two finish coats white paint conforming to Fed. Specs. TT-P-104.
3. All lettering to be black enamel except as noted.
4. For lettering alphabet see PLATE 2

STANDARD
PROJECT SIGN

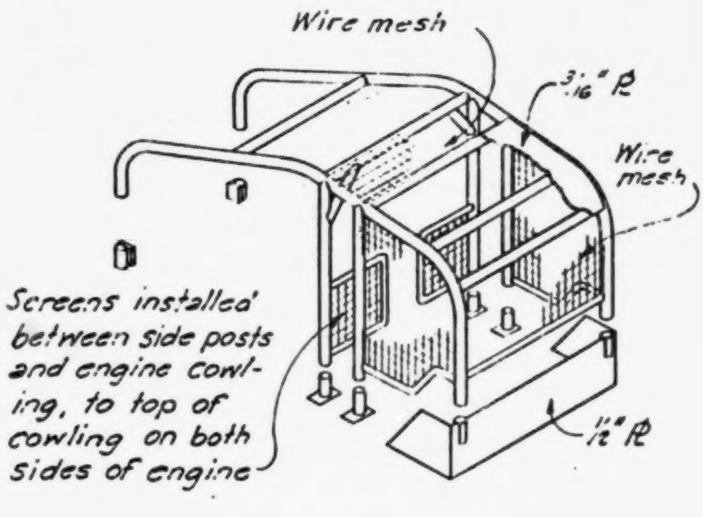
PLATE 1

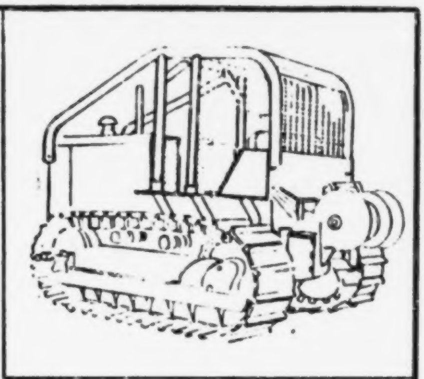

A B C D
J K L M
S T U V
- 1 2 3 4 5 6 7

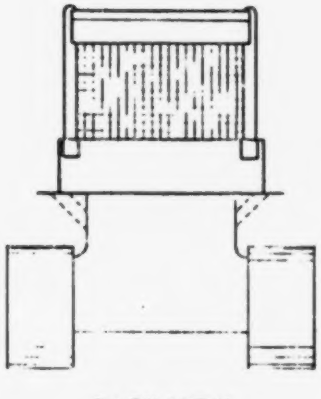
STANDARD
ALPHABET & NUMERALS

SP-21

PLATE 2


Wire mesh
3/16" ℞
Wire mesh
Screens installed between side posts and engine cowling, to top of cowling on both sides of engine
1/2" ℞

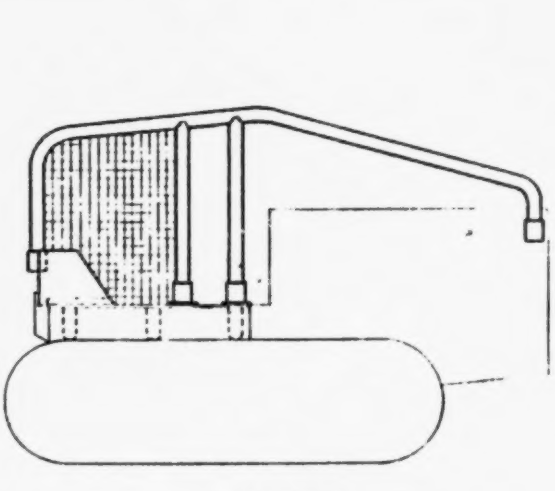




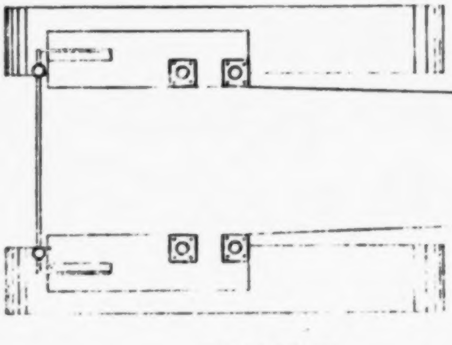
BACK VIEW

SPECIFICATIONS

1 Pipe shall be extra heavy seamless ASTM-A-53, Grade-A.
2. All pipe formed by cold bend process using pipe dies which will confine deformation of roundness to 100 diameters
3 Tank guard - ½" plate ASTM-A 7
4. Top plate - 3/16" plate ASTM-A 7
5. Top mesh - 4.27 lb./sq. ft. expanded metal. (Optional)
6. Rear mesh - 2 × 2 × 5/16" woven wire mesh.
7 All welds shall be continuous and equal in cross section to the lightest member
8. Welding welds shall be made only by operators who have been previously qualified by tests, as prescribed in the "Standard Qualification Procedure" of the American Welding Society
9. Arc Welding electrodes shall conform to the requirements of the "Specifications for Iron and Steel Arc-Welding electrodes" of the American Welding Society, latest edition.
10 Surfaces to be welded shall be free from loose scale, slag, rust, grease, paint, and any other foreign material, except that mill scale which withstands vigorous wire brushing may remain. Joint surfaces shall be free from fins and tears. Preparation of edges by gas cutting shall, wherever practicable, be done with a mechanically guided torch.
11 Pipe brackets under fenders shall be extra heavy pipe equal in diameter to main canopy members
12 Pipe braces on center legs shall be extra heavy pipe of a size and length suitable various loading conditions that apply
13 Painting: Shop coat - After inspection and approval and before leaving the shop all steel shall be thoroughly cleaned, by effective means, of all loose mill scale rust, spatter, slag, oil, dirt, and other foreign matter.



SIDE VIEW



PLAN VIEW

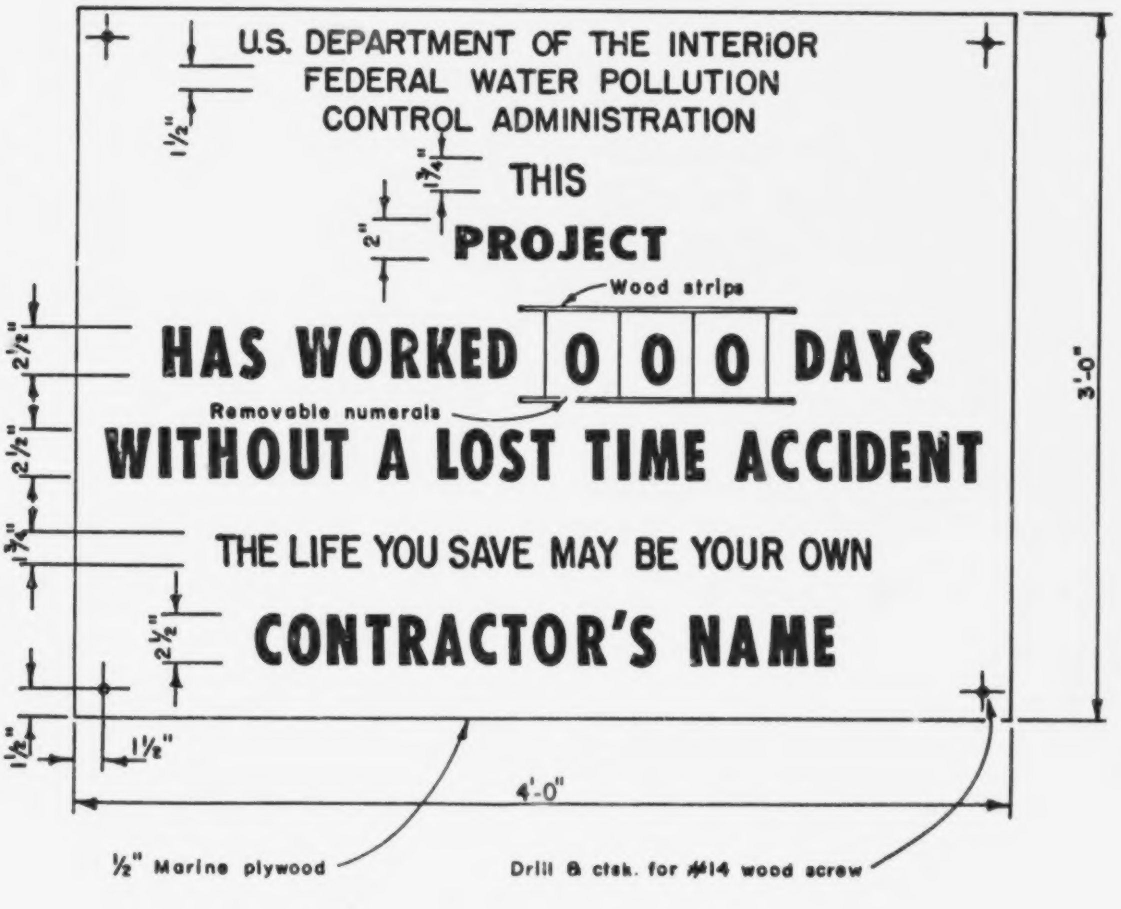
MINIMUM REQUIREMENTS

Gross tractor weight including attachments without canopy	Pipe diameter
Under 28,000 lbs	2½ inches
28,000 to 56,000 lbs	3 inches
Over 56,000 lbs	4 inches

SAFETY STANDARD
TRACTOR CANOPIES

SP-22

PLATE 3


U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
THIS
PROJECT
Wood strips
HAS WORKED 0 0 0 DAYS
Removable numerals
WITHOUT A LOST TIME ACCIDENT
THE LIFE YOU SAVE MAY BE YOUR OWN
CONTRACTOR'S NAME
1½"
1¾"
2"
2½"
2½"
1¾"
2½"
1½"
1½"
3'-0"
4'-0"
½" Marine plywood
Drill & ctsk. for #14 wood screw

NOTES:

1. Board to be sanded and painted with one prime coat and two coats white enamel.
2. All lettering to be black enamel except as noted.
3. Three (3) sets removable numerals (0 thru 9) painted on ⅛" tempered pressed wood.

SAFETY SIGN

PLATE 4

PART III - TECHNICAL PROVISIONS

SECTION 1 - CONSTRUCTION GENERAL

1. SCOPE: The work covered in this section is outlined as a statement of construction requirements common to all work. Specific requirements for materials and installations are provided under the Technical Sections herewith. No claims for extras shall be made on account of items presumed to have been omitted from this section.

2. CONSTRUCTION RIGHT-OF-WAY:

2.1 The Contractor will be assigned construction areas or construction right-of-way limits for use in the prosecution of work under this contract, subject to the provisions of Clause 34 of the General Provisions. In the event that the Contractor finds it necessary to utilize for any purpose whatsoever, additional right-of-way, plant or construction area for the performance of this contract, he will be required to do the following:

(a) Where the additional required area is owned or controlled by the Government, the area may be assigned to the Contractor upon request, provided the area is not needed for other purposes and provided there is no additional cost to the Government. All necessary grading and drainage shall be done at the Contractor's expense.

(b) Where the additional required right-of-way is not owned or controlled by the Government, the Contractor shall make all necessary arrangements for the utilization of the required area at no additional ex-

pense to the Government. Such arrangements shall be subject to the approval of the Contracting Officer, and copies of agreements for use of such right-of-way shall be furnished the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from the use of the grounds.

3. PROTECTION OF EXISTING FACILITIES AND WORKS: The Contractor shall be responsible for the protection of work area from damage and upon completion of the work, shall leave existing works in a condition equal to that which existed when the work started. All work, storage of materials and construction plant shall be kept within the limits of the areas indicated. Existing utility lines aboveground that are shown on the locations, as well as utility lines constructed during excavation operations, are to be retained and shall be protected from damage during excavation and backfilling. If damaged, any damage shall be repaired by the Contractor at no expense to the Government. In the event that the Contractor damages any existing utility lines that are not shown, or the locations of which have not been made known to the Contractor, report thereof shall be made immediately to the Project Officer. If the Project Officer determines that repairs shall be made by the Contractor, such repairs will be ordered under "Changes" in General Provisions of the contract. The Contractor will be responsible for the protection of structures from any structural damage during construction operations. Road and surfaces shall be protected from damage by the work, or if damaged shall be repaired with equal materials. At all times the stor-

age and work area shall be kept in a condition conducive to safety of workmen and the public, and neat in appearance. Waste or surplus materials shall not be allowed to accumulate in the construction area.

4. UTILITIES, ROADS AND HEALTH FACILITIES:

4.1 Public Utilities: The Contractor shall make his own arrangements for use of public and private utilities as found available.

4.2 Health Facilities: The Contractor shall observe all state and local laws with regard to establishing sanitary facilities and for disposal of waste and refuse.

4.3 Barricades: At each location where safe operation requires the closing of roads and other arteries leading to the work under this contract, except at established entry and exits, the Contractor shall maintain a heavy plank barricade or other effective barrier during construction. Arrangements for closure of roads and other travel arteries shall be made by the Contractor with the responsible authorities and a copy of all such arrangements furnished to the Project Officer prior to closure. A satisfactory sign shall be placed on each barricade stating the artery is closed. The cost of barricades shall be at the expense of the Contractor.

4.4 Operations: When operations are being conducted near a U.S., state or county highway or when construction and hauling equipment is being used on or adjacent to such highway, the Contractor shall furnish signalmen and such warning signs as are necessary to provide adequate warning to the traveling public.

4.5 Utility Lines: Utility lines may be within the construction area. It shall be the responsibility of the Contractor to make his own arrangements for the alteration to or the removal of the utility or obstruction. The Contractor's operations shall conform to the requirements specified in paragraph SP-16. Copies of agreements made by the Contractor with any utility company shall be furnished to the Project Officer before construction begins, and such agreements shall clearly relieve the Government of any responsibility for damages.

5. CONSTRUCTION ROADS AND RAMPS:

5.1 Access Roads: Access roads are required, and as approved, shall be built by the Contractor for construction purposes. The grade and the width of such roads shall be sufficient for movement of all necessary personnel and equipment to and from the work sites. Existing roads traveled in part for such purpose shall be used so as to permit movement of traffic by others. Dust control, safety signs, sprinkling and other controls shall be maintained by the Contractor and shall be subject to review and approval prior to construction. Upon completion of work under this contract, roads shall be disposed of as directed by the Project Officer and the area left in a sightly condition.

5.2 Construction Roads: The Contractor shall construct roads as may be necessary for the conduct of work, without additional cost to the Government. The Contractor shall arrange his hauling operations so as to cause a minimum of interference with traffic and shall furnish flagmen and other facilities as required to avoid additional hazards to the pub-

lic. All roads shall be maintained in first-class condition during all periods of their use. Roads shall be sprinkled wherever, in the opinion of the Project Officer, control of dust is necessary to insure safe movement of construction traffic. Upon completion of work under this contract, roads shall be disposed of as directed.

5.3 Ramps: Ramps shall be provided and maintained for access of equipment into excavation areas. Locations, grades and width are subject to review and approval by the Project Officer prior to construction.

5.4 Traffic Control: The Contractor shall be responsible for the safe control of traffic on all roads used primarily for the work under these specifications and at their crossings with roads used by others. The Contractor shall, at his own expense, furnish all personnel, signal devices and signals necessary for the safe and efficient control of construction traffic on road systems used by the Contractor.

5.5 Joint Use of Transportation Facilities: The Contractor may use, jointly with others, existing access roads as approved. Unless otherwise specifically authorized in writing by the Project Officer, the Contractor will not be granted exclusive use of any road whether it be an existing road or one constructed by the Contractor.

6. DRAINAGE: The Contractor shall provide and maintain ditches, dikes and other facilities, within and adjacent to the work areas, to divert water from surface and subsurface flow away from work in place or under construction by this and other contracts, to prevent damage and interference. When it is necessary to drain water from the mine,

the flow during mine drainage shall not exceed 675 gallons per minute at any time; however, the total drainage shall be kept to a minimum amount as directed. Flow from the mine shall be directed into natural drainage in a direction away from adjacent houses. The basis for design, location, type and size of drainage facilities are subject to review and approval by the Project Officer prior to construction.

7. DISPOSITION OF CONSTRUCTION FACILITIES: All buildings and facilities constructed by the Contractor shall be maintained in satisfactory condition with strict observance of the rules of sanitation, safety and order as may be established by the Project Officer. Prior to final payment under the contract, all buildings and facilities constructed by the Contractor for his own use shall be removed from the site by the Contractor.

8. COORDINATION WITH OTHERS: Public and private authorities and other contractors on U.S. Government work will be working in assigned work areas during the life of this contract. The Contractor shall coordinate his work with others to avoid undue interference and shall conduct his operations, other than approved required access, within the limits of the assigned construction area or construction right-of-way limits.

9. ORDER OF WORK:

9.1 General: The purpose of this paragraph is to specify requirements for the orderly construction of work stated in paragraph SP-1. The Contractor shall submit, for approval of the Project Officer prior to the start of work, the general outline of this method of procedure for prosecution of the work. A suggested CPM Logic Network is attached as Exhibit A. Work sites are designated and located on Drawing No. 102-1. Commencement of work is fifteen (15) calendar days after the date of receipt by the Contractor of notice to proceed with the entire contract.

9.2 First Order of Work: The Contractor shall complete site layouts, finish clearing and grubbing Work Sites I, II and IV, and complete initial excavation work on Opening No. 1 for initiating drainage within 6 working days after commencement of work.

9.3 Second Order of Work: Plugging of Opening No. 3, completion of drilling and remedial work on Opening No. 5 and the filling and recontouring of subsided areas will be completed as the Second Order of Work and shall be completed within 11 working days after commencement of work.

9.4 Third Order of Work: Excavation and remedial work on Openings 4, 2 and 1 will be completed as the Third Order of Work and shall be completed within 17 working days after commencement of work.

9.5 Fourth Order of Work: The Contractor shall complete the remainder of the contract work, remove construction plant facilities and clear up work sites and plant areas as the Fourth Order of Work within 19 working days after commencement of work.

10. PROGRESS CHARTS: Progress charts submitted in accordance with paragraph 35 of the General Provisions, shall indicate the required data for each of the bid items including the schedule for the following principal features of work:

10.1 Clearing and Grubbing:

a. Opening No. 1

b. Opening No. 2

c. Opening No. 4

10.2 Excavation:

a. Opening No. 1

b. Opening No. 2

c. Opening No. 4

10.3 Mine Opening Preparation:

a. Opening No. 1

b. Opening No. 2

c. Opening No. 4

10.4 Drilling and Remedial Work:

a. Opening No. 5

10.5 Subsided Areas - Filling and Recontouring:

a. Areas 1 through 13

10.6 Sealing:

a. Opening No. 1

b. Opening No. 2

c. Opening No. 3

d. Opening No. 4

10.7 Site Clean-up and Removal of Equipment:

a. Work Site I

b. Work Site II

10.7 Site Clean-up and Removal of Equipment (Continued):

c. Work Site III

d. Work Site IV

e. Work Site V

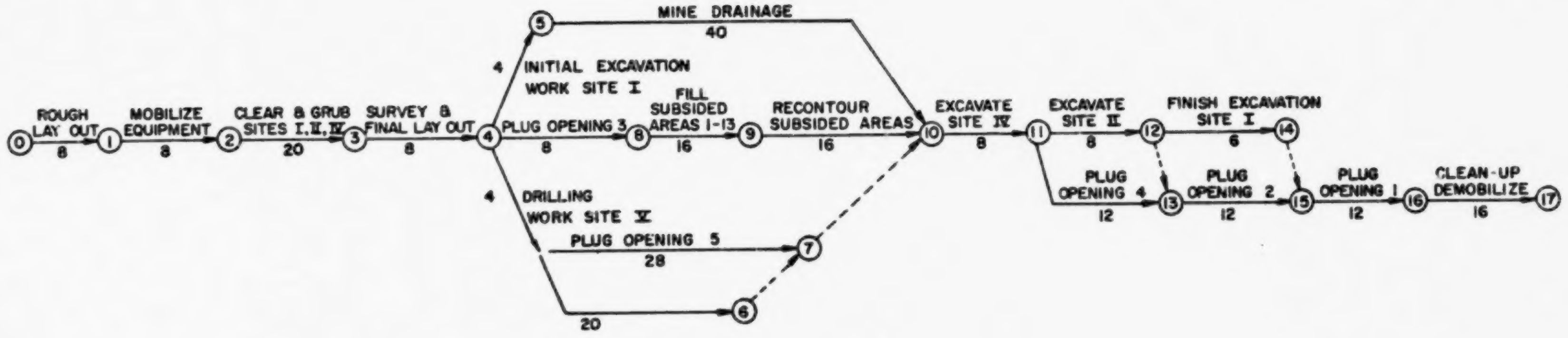
11. WATERWAY & DRAINAGE CROSSINGS: The Contractor shall construct approved crossings where access roads and construction roads cross waterways and/or drainage paths with adequate openings for drainage and stream flow. Structures for crossings shall be safe for all operating equipment and vehicles and shall be adequate for drainage and flow of the waterway. The structures constructed by the Contractor shall be left intact upon termination of the contract and shall become the property of the owner.

12. PROJECT SIGN: The Contractor shall provide a project sign constructed in accordance with Plate 1, page SP-20 of Part II - Special Provisions. The sign shall be erected at the project site by the Contractor at the location determined by the Project Officer. The project sign shall be left in place upon completion of the contract work and shall become the property of the Government. No separate payment will be made for the sign.

13. PURCHASE ORDERS: Two (2) copies of each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project shall be furnished the Project Officer as soon as issued, and immediate notice shall be given him of the receipt of any material for the work, together with detailed lists of same. Each purchase order shall be clearly identified with the applicable contract

number. At the option of the Contractor, those copies of purchase orders may or may not indicate the price of the article purchased.

14. PAYMENT: No separate payment will be made for work referred to in this section and all costs of operations therefor shall be considered a subsidiary obligation of the Contractor to be included in the applicable contract price or prices.


ROUGH LAY OUT
8
MOBILIZE EQUIPMENT
8
CLEAR & GRUB SITES I, II, IV
20
SURVEY & FINAL LAY OUT
8
MINE DRAINAGE
40
4
INITIAL EXCAVATION WORK SITE I
PLUG OPENING 3
8
FILL SUBSIDED AREAS 1-13
16
RECONTOUR SUBSIDED AREAS
16
4
DRILLING WORK SITE V
PLUG OPENING 5
28
20
EXCAVATE SITE IV
8
EXCAVATE SITE II
8
FINISH EXCAVATION SITE I
6
PLUG OPENING 4
12
PLUG OPENING 2
12
PLUG OPENING 1
12
CLEAN-UP DEMOBILIZE
16
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBER 62-067
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

SECTION 2

CLEARING AND GRUBBING

1. SCOPE: This section covers all operations in connection with the clearing from designated areas of all trees, brush, logs, downed timber, other herbaceous vegetation, fences, buildings and other structures, all rubbish and the grubbing of stumps and roots and the disposal of all material resulting from the clearing and grubbing operations.

2. CLEARING: Clearing shall consist of the felling and satisfactory disposal of trees, vegetation and other material including downed timber, snags, brush, rubbish and fences within the area to be cleared. Such growth shall be cleared flush with the original ground surface by cutting, pulling, grubbing, or other approved methods. The areas to be cleared shall include those Work Sites as shown on the Mine Site Map and designated to be cleared in the Order of Work, Section 1 of the Technical Provisions, together with a 10-foot strip measured horizontally beyond and contiguous thereto of all excavated areas. Trees shall be felled in such a manner as to avoid damage to the existing structures and installations, and to those under construction as well as with due regard for the safety of employees and others.

3. GRUBBING: Grubbing shall consist of the removal and disposal of all stumps, roots larger than 1 inch in diameter, partially buried logs and other organic or metal debris not suitable for work site purposes, to a minimum depth of 3 inches below the graded surface. The areas to be grubbed shall include all areas to be cleared as specified above.

4. EXISTING ROADS, STRUCTURES AND IMPROVEMENTS: Existing Roads, structures and improvements not specified herein for removal, razing and disposition will be removed by others or left in place.

4.1 Transmission Lines: Operations adjacent to or under overhead transmission lines shall be accomplished in accordance with the provisions of the Safety Manual EM 385-1-1. These operations shall not be initiated until the utility company has been notified and operations coordinated therewith. Any temporary transmission line revisions, relocation and/or other work required shall be the responsibility of the Contractor. Payment for this work will be included in the lump sum price for "Clearing and Grubbing".

5. DISPOSAL OF MATERIAL: The material cleared and grubbed from the area shall be completely removed by transporting from the site or burned within the cleared areas, unless otherwise approved by the Project Officer. The disposal of material shall closely follow the clearing and grubbing process so that the materials will not become scattered over the site. In no case shall cleared and grubbed material be thrown or left in drainage area. Refuse to be burned shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer.

6. STRUCTURE CLEANING: The term (structure) shall include buildings or portions thereof, razed building formations, walks, cellars, fences, mine opening bracing, mine drainways, etc. Structures shall be removed or filled to the ground surface. Combustible materials obtained from

removal of structures shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer. Noncombustible materials shall be disposed of as directed by the Project Officer.

7. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for clearing and grubbing will be made, but payment for this work will be made at the contract lump sum price for "Clearing and Grubbing", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed, as shown on the drawings and as specified herein.

SECTION 3

EXCAVATION

1. SCOPE: This section covers all excavation on the project, except any which might be specified in other sections in addition to excavation specified herein.

2. CLASSIFICATION OF EXCAVATION: Excavation is defined as the removal of materials consisting of topsoil, clay, silt, sand, gravel, rock and boulders and similar materials that exist within the areas to be excavated. All excavation hereinafter specified shall be done on the unclassified basis, as provided for under the item designations of the contract. No consideration will be given to the nature of the materials and all excavation will be designated as excavation.

3. LINES AND GRADES AND TOLERANCES:

3.1 Lines and Grades: The location and dimensions of the proposed excavations are indicated on the drawings designated as 102-2, 102-3 and 102-5. The Contractor will make initial cut at the location and to the dimensions shown in the drawings for the purpose of determining the exact location of the opening. Additional cuts may be made at the direction of the Project Officer until the opening is located.

Upon location of the mine opening, excavation will proceed to the dimensions shown on the drawing as related to the center line of the actual opening. However, the Government reserves the right to order increase or decrease of the depth, length, width, or slopes of

the excavation if conditions develop which require such revisions. In order to assure an adequate mine opening size and seal contact surface, excavation shall be extended as directed by the Project Officer. Side slopes at the bottom of the excavation shall be adjusted accordingly as directed to provide for the varying elevations of the bottom of excavation. The above reservations will not apply to revisions after work has been satisfactorily performed. Changes in quantities of materials shall not be made cause for claims for increased unit price except as provided in paragraph SP-6 of the Special Provisions.

3.2 Surface Tolerance: Grading will be in conformity with the lines and grades shown on the drawing with a maximum tolerance of six inches above or below the designated lines. However, the maximum tolerance in either direction may not extend over an area greater than 2,000 square feet. Excavation beyond the lines and grades shown, and as extended above, shall not be included in the excavation measured for payment except when the overexcavation is unavoidable because of the character of the material and is not due to fault or negligence of the Contractor.

4. UTILIZATION OF MATERIALS: Suitable material removed from the required excavations shall be used in the formations of embankments, fill, ramps, etc. Excavated material unsuitable for this work shall be transported to and disposed of in the designated waste areas.

5. METHODS AND EQUIPMENT:

5.1 Excavation may be carried on by any approved method and by the

use of any approved equipment adapted to the work and which will meet the operational schedule requirements. Dry excavation operations shall be used in all areas. Equipment shall conform to the safety provisions of SP-16, Special Safety Requirements.

6. SLIDES: In the event a slide occurs which interferes with the construction, the Contractor will excavate the slide areas to stable slopes as directed. Material excavated from slide areas shall be disposed of in accordance with the specific utilization of the particular type of material involved.

7. REMOVAL OF WATER: The Contractor shall construct and maintain all necessary channels, flumes and/or other temporary diversion and protective works, shall furnish all material required therefor, and shall furnish, install, maintain and operate all walls, sandpoints, pumping and other equipment for dewatering and for maintaining work site free from water as required for construction of mine remedial work.

8. WASTE AREAS: Material placed in waste area shall be graded to drain.

9. MEASUREMENT:

9.1 Excavation: The unit of measurement for excavation shall be the cubic yard. Initial surveys will be made of existing ground surface of all excavation areas prior to work under this contract. Measurement of excavation will include the total volume of material computed by the average end area method, between the surfaces established by the initial survey and the surface of completed excavation as approved. The measurement will not include the yardage of material excavated without author-

ization beyond the normal slope lines or the yardage of material used for purposes other than those shown or directed. The measurement of excavation will not include water or other liquid, but will include mud, muck, or similar semi-solid material which had not been disturbed by the Contractor and which cannot be drained away, and overbreakage due to slides which were not caused by the carelessness of the Contractor; and authorized excavation of unsuitable materials.

10. PAYMENT:

10.1 Excavation: The yardage of excavation measured as specified hereinbefore will be paid for at the contract unit price per cubic yard for "Excavation", which payment will constitute full compensation for all labor, equipment, tools and supplies necessary to complete all items of the work including excavating, hauling and the prescribed disposal of unsuitable material.

SECTION 4

EXPENDABLE GROUT RETAINER PLUG

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the manufacture, assembly, transporting, placing and filling of the Expendable Grout Retainers in the specified mine openings to effect the desired plug.

2. MANUFACTURE OF RETAINERS:

2.1 Materials of Construction: The Expendable Grout Retainer will be constructed as shown in Drawing No. 101-7. The fabric used shall be a cotton material, having a plain weave with a thread count of 26 x 20 threads per inch, a tensile strength of 175 psi and a weight of 10 ounces per square yard. The thread shall be cotton with a tensile strength of 450 psi. Webbing material shall be cotton with a tensile strength of 500 pounds per inch of width.

2.2 Method of Construction: The Expendable Grout Retainer shall be constructed using seams and stitched areas containing 9 stitches per inch. The seam as per Detail A on Drawing No. 101-7 shall be a flat and folded seam made using a flat stitch, and the seam shown in Detail B shall be a lapped seam made with a triple chain stitch, the chain side of the stitch being located on the inside of the retainer. The webbing shall be 4" in width with length as indicated on the drawing. It shall be equipped with 1/2" brass eyelets located as shown on Drawing No. 101-7.

2.3 Sizes: The sizes for Expendable Grout Retainers will vary according to the location of each retainer in the completed plug for each

opening as indicated herein and shown on Drawing No. 101-7.

Bottom retainer shall have a nominal length of 20 feet, a nominal width of 12 feet, and a height of 2-1/2 feet.

Second retainer (placed on top of bottom retainer) shall have a nominal length of 16 feet, a nominal width of 12 feet and a height of 2-1/2 feet.

The third (or top) retainer shall have a nominal length of 13 feet, a nominal width of 12 feet and a height of 2 feet.

Should the mine opening to be plugged exceed seven (7) feet in height, a fourth retainer may be necessary. If so, this fourth retainer shall have a nominal length of 10 feet, a nominal width of 12 feet and a height of one and one-half (1-1/2) feet.

In the event that the mine opening width exceeds twelve (12) feet, the nominal width of the retainers shall be increased accordingly.

3. ACCESSORIES FOR RETAINERS:

3.1 Monitoring, Drain and Fill Pipes: All pipes shall conform to the requirements for Type II Polyethylene Plastic Pipe as set forth in Commercial Standard CS255-63 as developed under the procedures of the Commodity Standards Division issued by the U.S. Department of Commerce. Drain pipe will be installed in the bottom bag only. Drain pipe and fill pipes shall be of 2" nominal diameter (2.067" ID) with a wall thicknexx of .180" and shall have a maximum working pressure of 100 psi at 73.4° F. Monitoring pipes shall be of 1" nominal diameter (1.049"ID) with a wall thickness of .091" and shall have a maximum working pressure

of 100 psi at 73.4°F. The length for each pipe shall be as shown on Drawing No. 101-8.

3.2 Pipe Adapters: The monitoring pipes shall be equipped with 1" NPT male threaded adapters made of polyallomer material. The drain pipe and fill pipes shall be equipped with 2" NPT male threaded adapters made of polyallomer material.

3.3 Adapter Clamps: Clamps shall be those normally used on 1" and 2" sizes of flexible plastic pipe, such as worm and sector type, made of 18-8 stainless steel.

3.4 Retainer Connector Clamps: Clamps shall be plastic pipe clamps of the worm and sector type, made of 18-8 stainless steel. The size shall be 1-1/2" nominal diameter for the 1" monitoring pipes and 2-1/2" size for 2" drain pipe and fill pipes.

3.5 Retrievable Monitoring Valve: Valve shall be 1", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.6 Retrievable Drain Valve: Drain valve shall be 2", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.7 Retrievable Fill Valve: Fill valve shall be 2" bronze gate type with NPT female thread, 125# WOG rating.

4. EQUIPMENT REQUIRED:

4.1 Pumping Equipment: Pumping equipment shall be capable of pumping the mixed grout slurry at rates of from 0 to 50 cubic yards per hour, injecting same into retainer against a maximum pressure of 20 psi through a nominal 2" line.

4.2 Monitoring Equipment: The monitoring equipment will consist of instrumentation capable of monitoring and recording fluid pressure in the retainer over a range of from 0 to 25 psi.

5. GROUTING SLURRY: The grouting slurry required to fill each retainer will be mixed as specified in Section 5, paragraph 3 of the Technical Provisions.

6. PLACEMENT OF GROUT RETAINERS IN OPENINGS: The Contractor shall place and fill the required number of Expendable Grout Retainers in each designated mine opening to effect a watertight seal. The retainers will be placed in accordance with Drawing No. 101-6 so that the bottom retainer is flush with or inside the mine opening as excavated, and in accordance with the following specifications:

6.1 Bottom Retainer: The drain pipe shall be placed through the retainer and the fill pipe placed inside as shown on Drawing No. 101-8 and securely clamped to the canvas spout, using the clamps listed in paragraph 3 above. The adapters shall be placed on the outside end of the pipes and proper valves affixed thereto as specified.

After the opening has been properly prepared as specified in appropriate sections of the Technical Provisions, the retainer shall be pushed or placed in the mine opening, using the drain pipe as an aid in placement. The retainer will be placed in such a manner as to subject it to a minimum amount of distortion and localized stress when filled to the specified height with grouting slurry. Care should be taken that the pressure exerted by the grouting pump will not exceed 5 psig. Axial

movement of the retainer as it is being filled, due to slope of the mine floor, shall be controlled by the Contractor in a manner which will prevent damage to the retainer and allow it to cover the full retainer area on the mine floor. Any deviations from these specifications and drawings desired by the Contractor because of mine opening conditions or water flow from opening shall be presented to the Project Officer for approval prior to initiation of work.

When placed in the mine opening, the retainer shall include the drain pipe or monitoring pipe, fill pipe and other accessories as shown on Drawing No. 101-8.

6.2 Subsequent Retainers: The additional retainers necessary to plug the opening will be placed in successive order on the bottom retainer after the grout slurry has set as indicated by tests required under paragraph 3.4 of Section 5 of the Technical Provisions. Each successive retainer shall be placed only after the previously placed retainer has taken its required set and has been properly prepared for the succeeding retainer. Placement will follow the procedure for the bottom retainer as specified above. The top retainer should be filled to the extent necessary to cause contact with and bonding to the mine opening roof. The contact will be maintained by closing the valve on the fill line when the instrumentation indicates maximum pressure of 5 psi (gage) has been obtained.

7. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this Section and all costs of operation therefor

shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for plugging the mine openings.

SECTION 5

GROUTING MATERIALS

1. SCOPE: The work covered by this section shall consist of furnishing all material and equipment, and performing all labor for transporting, blending and mixing the materials as specified herein.

2. MATERIALS: The materials used in mixing the slurries shall conform to the following specifications:

2.1 Cement:

Portland Type, conforming to ASTM Type I specifications, ASTM C150-66.

2.2 Fly Ash:

When used as an admixture, shall conform to "Specifications for Fly Ash for Use as an Admixture in Portland Cement Concrete", ASTM C350.

2.3 Gypsum:

Hemihydrate form conforming to specifications as set forth in ASTM C59-50, Gypsum Molding Plaster.

2.4 Lignin Retarder:

A Calcium-Sodium Lignosulfonate which acts as a cement retarder and a dispersant of particles in a slurry composed of water and finely ground materials. Approved materials are:

(1) Lignox - Distributed by Baroid Div. of National Lead Co.
Houston, Texas

(2) HR-7 - Distributed by Halliburton Services, Weston,
West Virginia

(3) Kembreak - Distributed by Milwhite Company, Houston Texas.

(4) Any other equal material approved by the Project Officer.

2.5 Sodium Silicate Solution:

This material is an aqueous solution of soluble sodium silicate with a mole ratio of $1Na_2O$: $3.22\ SiO_2$. This solution has a gravity of 40-41.5 degrees Baumé, and a typical viscosity of about 206 centipoise. Approved commercial products are Grade 40 from Diamond Alkali Company and Type N from Philadelphia Quartz Company.

2.6 Water:

Mixing water for cement slurry shall be fresh, clean and potable. Nonpotable water may be used only if it produces sample cubes having 7 and 28 day strengths equal to the strength of similar specimens made with clean, potable water, when tested in accordance with "Method of Test for Compressive Strength of Hydraulic Cement Mortars" (ASTM C 109).

3. EXPENDABLE GROUT RETAINER SLURRY:

3.1 Preliminary Mixing: Samples of materials to be used in the slurry, as listed in paragraph 2, will be obtained by the Contractor in accordance with Section 1, API RP 10B, "Recommended Practice for Testing

Oil Well Cements and Cement Additives", Fifteenth Edition. Scales shall meet specifications set forth in Section 3, API RP 10B.

The proportions of materials to be mixed will be 20% Cement, 40% Fly Ash, 40% Gypsum and 0.6% Lignin Retarder by weight, with water added equal to 41% of the weight of the dry materials, excluding retarder. Water and curing temperature should approximate that expected on job site.

Mixing device used in laboratory for mixing sample can be any type of mixer that can intimately mix the ingredients with the mixing water. If a high speed mixer is used, such as Waring Blendor, mixing time should be 35 seconds. The mixing time for a slow speed mixer shall be two minutes.

3.2 Testing of Preliminary Mix: Slurry mixed as in paragraph 3.1 shall be tested for thickening time in accordance with Appendix B, "Atmospheric Pressure Consistometer", API RP 10B, or by similar method approved by the Project Officer. The slurry shall have a minimum thickening time of 1 hour after mixing, and shall not have a viscosity over 25 poise. Sufficient samples of the slurry shall be placed in molds conforming to ASTM C 109 to permit compressive strength tests on nine sample cubes. Three cubes shall be tested 2 hours after mixing using a hydraulic type testing machine in accordance with ASTM C 109, and shall exhibit a compressive strength in excess of 10 psi. Tests shall be made of three specimens at 24 hours with a minimum compressive strength requirement of 100 psi, and at 72 hours with a minimum required strength of 200 psi. If the tests indicate that the material does not meet these specified requirements, the amount of retarder can be adjusted to obtain a slurry which will meet the specifications. This situation can be caused by the variation in gypsum from one area to another. The substitute slurry which does meet the specifications should then be approved by the Project Officer before it is used on the work site.

3.3 Site Slurry Mixing: The Contractor shall mix the approved slurry on the work site in the following proportions:

MATERIALS PER CUBIC YARD OF SLURRY

Pounds				Gallons
Cement	Fly Ash	Gypsum	Retarder	Water
430	860	860	18.2*	105

*Based on 0.6% as specified. If substitute is approved, this value will change accordingly.

Mixing shall be accomplished in a continuous manner so that a quantity of 50 cubic yards per hour shall be thoroughly mixed and subsequently placed in the Expendable Grout Retainer as specified in Section 4 of the Technical Provisions.

3.4 Site Slurry Testing: Samples shall be taken from the discharge side of the pump which is placing the slurry in the Expendable Grout Retainer during the last part of the filling operation. Samples shall be taken in a small container, such as a disposable cup, and in molds conforming to ASTM C 109.

Sample in cup shall be tested one hour after filling operation using a sharp instrument, such as a nail or knife, to determine if material has set. If material is still fluid, tests shall be made each 15 minutes thereafter until set. When the test indicates that the material is set, the retainer will then have sufficient strength to permit a second retainer to be placed on it for continuation of the work.

If the material does not set within three (3) hours after start of mixing, the job will be stopped and the retainer removed from the hole. A new batch will then be prepared and tested. Approved tests must be obtained before job proceeds.

Samples in mold shall be tested in accordance with ASTM C 109 for compressive strength of three specimens each at 24 hours and at 72 hours. Tests shall confirm preliminary tests and specimens shall exhibit a minimum average strength of 100 psi at 24 hours and 200 psi at 72 hours. Results shall be reported on the daily work report.

If the tests for compressive strength fail to meet the specified minimum strengths, work shall be stopped immediately. No further work shall be done until an approved slurry is obtained. Cores from the retainer in place shall be obtained by the Contractor and test samples from the core shall be tested. If these samples are satisfactory, the work may resume. If tests indicate the material still does not meet the specified strength, the plug will remain in place but the materials will not be considered to constitute basis for payment.

4. PRESSURE GROUTING SLURRIES:

4.1 Grouting Slurry "B": Pressure grouting slurry "B" will be a silicate-cement slurry. This slurry is composed of a mixture of two compositions. Each separate slurry shall be mixed in the following proportions:

CEMENT SLURRY

ASTM Type I Cement	35.75 parts by weight
Fly Ash	35.75 parts by weight
Water	28.50 parts by weight

SILICATE SOLUTION

Sodium Silicate Solution	62.0 parts by weight
Water	38.0 parts by weight

Mixing shall be accomplished so that each composition shall be thoroughly mixed and subsequently placed by the two stream method into the grout area as specified.

The two components will be mixed on the work site in the following proportions per cubic yard of slurry required, and then mixed together in equal volumes as they enter the grout area, using the two stream method:

CEMENT SLURRY

Pounds		Gallons
Cement	Fly Ash	Water
552	552	52.8

SILICATE SOLUTION

Gallons	
Sodium Silicate	Water
55.9	45.2

5. GOB-CEMENT SLURRY: A gob-cement slurry is for use in filling subsided areas where strength is of minor importance. The gob for use in the slurry will be found locally on the mine site area in sufficient quantities. The gob should be screened through a 1" screen prior to using in the slurry.

The slurry shall be composed of 25 parts Type I Portland Cement, 25 parts Fly Ash, 50 parts Gob and 87.5 parts of water by weight.

5.1 Site Mixing: The gob slurry will be thoroughly mixed on the site by the Contractor in the following proportions:

MATERIALS PER CUBIC YARD OF SLURRY

Pounds			Gallons
Cement	Fly Ash	Gob	Water
325	325	650	136

Slurry as mixed above will be subsequently placed into the subsided areas as specified in Section 10 of the Technical Provisions.

6. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this section and all costs of operation therefor shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for conducting the slurry placement.

SECTION 6

PLUGGING OPENINGS 1, 2 and 4

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the plugging of the specified openings in the mine as shown on the drawings and specified herein.

2. EXCAVATION OF OPENING: The excavation of the opening will be done in accordance with the drawings and specifications included in Section 3 of the Technical Provisions.

3. PREPARATION OF OPENING: The opening will be prepared for placement of the sealing plug by first removing all loose rocks and debris from the drift for a depth of twenty five (25) feet from the excavated opening face. Debris is defined as any foreign material in this area which would impair proper placement of the retainer. Then the walls, roof and floor shall be scoured and cleaned for a depth of 25 feet into the drift tunnel by hydraulically jetting the area with fresh water. Jetting shall be accomplished with a 3/4" hose and 3/8" exit nozzle with a minimum water pressure of 75 psi. Any substitute used must be approved by the Project Officer prior to use.

4. PLACEMENT OF PLUG: The openings will be sealed by the use of Expendable Grout Retainers as specified in Section 4 of the Technical Provisions. Grout materials to be used are specified in Section 5, paragraph 3.3 of the Technical Provisions.

The slurry to be used in filling the retainers should be sprayed over the floor and lower three feet (3') of the walls in the area where the retainer is to be placed just prior to placement of the bottom retainer. This procedure should be repeated when installing subsequent retainers in the opening.

5. FINAL PLUGGING: When all work has been finished on the project, prior to demobilization the Contractor will place a cement plug approximately two feet (2') in length in each pipe protruding from the retainers. After the cement has set, the valves will be removed and remain the property of the Contractor.

6. MEASUREMENT AND PAYMENT:

6.1 General: The Contract prices for the various items of work and materials, as described in paragraphs 6.2 and 6.3, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

6.2 Preparation of Opening: No measurement for purposes of payment for removal of debris from the drift or jetting of tunnel floor, walls and roof will be made, but payment for this work will be made at the contract lump sum price for "Preparation of Opening", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

6.3 Placement of Plug: The unit of measurement for placement of Expendable Grout Retainers will be the cubic foot of slurry placed around the retainer or in the retainer, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of Contractor.

SECTION 7

HOLE DRILLING

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the drilling of holes required in remedial work on Opening No. 5 at Work Site V.

2. LAYOUT: The locations of the holes are indicated on Contract Drawing No. 102-6. Base line and bench mark will be established by the Government. All other layout shall be the responsibility of the Contractor.

3. EQUIPMENT: All drilling operations shall be performed with rotary type equipment of a type, capacity and mechanical condition suitable for performing the required work, subject to the approval of the Project Officer.

4. HOLE INFORMATION: Holes drilled will be in accordance with specified contract drawings. Hole size will be 2-3/4" diameter. Depth for each hole will be two feet below bottom of coal seam or approximately twenty (20) feet, or as directed by the Project Officer. There will be a minimum number of three (3) holes drilled in successive order as shown on Drawing No. 102-6. Immediately upon completion of drilling to required depth, hole will be cased temporarily with 2-1/2" Standard Schedule 40 pipe and shall conform to Grade B of "Specifications for Welded and Seamless Steel Pipe" ASTM-A53. Pipe will be driven in the hole to within two (2) feet of bottom. Temporary casing used in first three (3) holes shall be removed and used in additional holes, if drilled.

Additional holes will be drilled at the direction of the Project Officer.

5. STAND-BY USE OF DRILLING EQUIPMENT: The drilling equipment may be held on location after holes are drilled at the discretion of the Project Officer.

6. MEASUREMENT AND PAYMENT:

6.1 General: The contract prices for the various items of work and materials, as described in paragraphs 6.2 and 6.3, shall constitute full payment for mobilizing, demobilizing and furnishing all equipment, materials, utilities and facilities to complete all holes covered under this section, including final clean-up of site.

6.2 Drilling: The unit of measurement for drilling operations described herein shall be by lineal foot of hole drilled.

6.3 Stand-by Time: The unit of measurement for stand-by time for the drilling equipment will be by the hour.

SECTION 8

PLUGGING OPENING NO. 3

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the plugging of Opening No. 3 in Mine 62-067.

2. PREPARATION OF OPENING: The opening to be sealed is a 24" concrete pipe extending from the side of the mine. The pipe slants downward into the mine. A special plug as shown on Drawing No. 102-4 will be pushed into the pipe for a distance of approximately twelve (12) feet and anchored in place as shown.

3. SEALING OF OPENING: The pipe will be sealed with a 2000 psi concrete with 8" slump, mixed and placed in accordance with "Specifications for Structural Concrete for Building", ACI 301-66. Pipe will be filled from the plug to the outside end with the concrete.

4. MEASUREMENT AND PAYMENT: The unit of measurement for the plugging of Opening No. 3 will be the cubic foot of concrete placed as measured by dimensions of concrete pipe filled. This payment shall constitute full compensation for furnishing all equipment, labor and materials incidental to this work.

SECTION 9

PLUGGING OPENING NO. 5

1. SCOPE: This section covers furnishing all material and equipment, and performing all labor for the plugging of Opening No. 5 as shown on the drawings and specified herein.

2. GROUT HOLES: Holes for use in placing the grouting slurry will be drilled in accordance with Drawing No. 102-6 and Section 7 of the Technical Provisions.

3. SEALING OF OPENING: This opening will be sealed using grouting methods and materials. The work will be accomplished in two stages.

3.1 First Stage Operation: The first stage of work shall proceed after the first of the initial three holes are drilled as specified. A well packer shall be placed in the first hole and set in the temporary casing near the bottom of the hole. A tracer dye, such as fluorescein, will be injected through the packer under low pressure (not to exceed 20 psi). The exit flow of water will be monitored by the Contractor during and after the injection to determine if contact has been made with the water flow from the mine.

When sufficient time has elapsed and no trace of dye has been seen, the testing will move to hole number 2 and the subsequent operations repeated. This procedure will continue until dye is noted in the exit water flow.

3.2 Second Stage Operation: When dye has been obtained at monitoring point, a slurry will be mixed conforming to grouting slurry "B" as specified in Section 5, paragraph 4.1 of the Technical Provisions. This slurry will then be pumped into the hole through the packer under low pressure (not to exceed 20 psi). The water flow will be monitored by the Contractor at frequent intervals during this operation and for 15 minutes subsequent to the end of grouting.

If any water flow remains, an additional hole will be drilled and the above sequence repeated until flow ceases or until so directed by the Project Officer. Additional holes will be drilled and tested as directed, not to exceed a total of seven (7) holes.

4. EXCEPTIONS: Should the water flow be completely stopped prior to drilling the minimum number of three (3) holes, the balance of holes comprising the minimum number shall be drilled and grouting slurry injected at the direction of the Project Officer.

5. HOLE PLUGGING: After the temporary casing has been removed by the drilling contractor, hole shall be filled to surface with grouting slurry.

6. MEASUREMENT AND PAYMENT:

6.1 General: The contract prices for the various items of work and materials, as described in paragraphs 6.2 and 6.4, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

6.2 First Stage Operation: The unit of measurement for the first stage operation shall be by the pound of dye used.

6.3 Second Stage Operation: The unit of measurement for the second stage operation shall be the cubic foot of slurry placed, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor

6.4 Hole Plugging: The unit of measurement for hole plugging shall be the cubic foot of slurry placed in the hole, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor.

SECTION 10

FILLING SUBSIDED AREAS

1. SCOPE: The work covered by this section consists of furnishing all materials and equipment, and performing all labor for the filling of subsided areas as indicated on the contract drawings and specified herein.

2. LAYOUT: The locations of the subsided areas to be filled are shown on Drawing No. 102-1, and are designated numbers 1 through 13.

3. PLACEMENT PROCEDURE: The gob cement slurry will be thoroughly mixed according to specifications set forth in Section 5, paragraph 5 of the Technical Provisions either continuously or in batches of not less than one (1) cubic yard. The mixed slurry will then be sprayed over the entire inner surface and then filled to within one (1) foot of the lowest point of the circumference, or to a depth of seven (7) feet, whichever is less.

4. MEASUREMENT AND PAYMENT: The unit of measurement for filling the subsided areas will be the cubic foot of slurry placed, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of the Contractor.

SECTION 11

RECONTOURING SUBSIDED AREAS

1. SCOPE: The work covered by this section consists of furnishing all materials and equipment, and performing all labor for the recontouring of areas of subsidence as indicated on contract drawings.

2. LAYOUT: The subsided areas which are to be recontoured are indicated by numbers 1 through 13 on Drawing No. 102-1.

3. FINISH GRADING: The Contractor shall recontour the filled subsided areas to fit the existing grade of the area.

4. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for recontouring work will be made, but payment for this work will be made at the contract lump sum price for "Recontouring", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and as specified herein.

SECTION 12

MONITORING AND SAMPLING

1. SCOPE: This section covers all operations in connection with monitoring the flow of water from the specified mine openings and sampling of water to be accomplished by the Contractor.

2. MONITORING: The flow of water issuing from each mine site opening specified herein shall be measured prior to plugging the opening. Any flow remaining in the vicinity of the plugged opening shall be measured following the remedial work. These measurements shall be obtained by the Contractor and included in his daily work report to the Project Officer on days when measurements are taken.

3. SAMPLING:

3.1 Water Sampling: Samples of mine water discharge, impounded mine water and surface water flows in the stripped areas of the work shall be obtained by the Contractor. Samples shall be obtained prior to initiation of work, prior to sealing of opening and after sealing of opening, should any leakage occur. Samples shall be furnished to FWPCA laboratory at Wheeling, West Virginia as directed by the Project Officer.

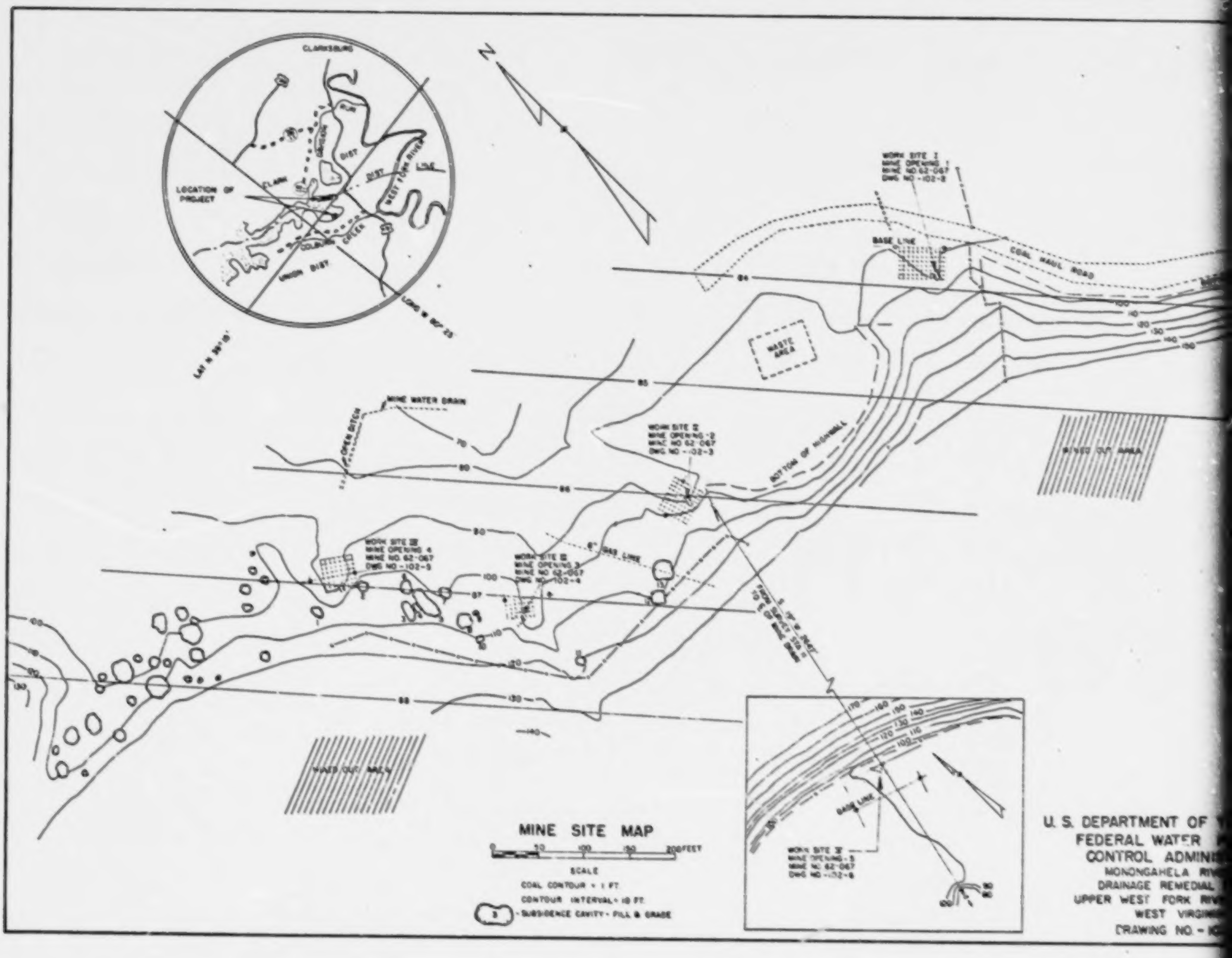
4. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for monitoring and sampling will be made, but payment for this work will be made at the contract lump sum price for "Monitoring and Sampling", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

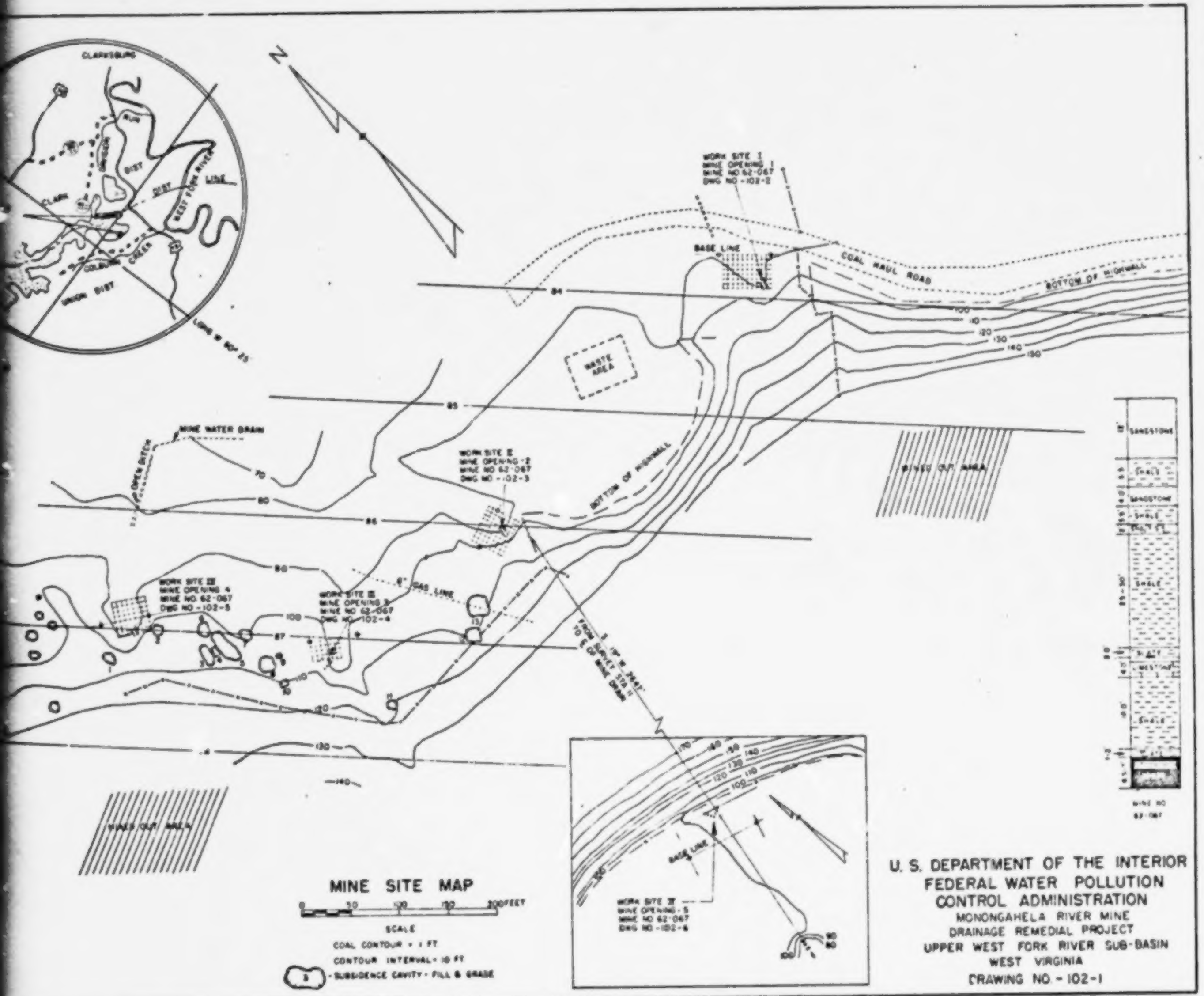
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA

PLANS FOR REMEDIAL CONSTRUCTION ON MINE NO. 62-067

DRAWINGS

TITLE	DRAWING NO.
VICINITY AND MINE SITE MAP	102-1
WORK SITE I - OPENING NO. 1	102-2
WORK SITE II - OPENING NO. 2	102-3
WORK SITE III - OPENING NO. 3	102-4
WORK SITE IV - OPENING NO. 4	102-5
WORK SITE V - OPENING NO. 5	102-6
MINE PLUG - EXPENDABLE GROUT RETAINER	101-6
DIMENSIONAL SPECIFICATIONS - EXPENDABLE GROUT RETAINER	101-7
ASSEMBLY - EXPENDABLE GROUT RETAINER	101-8


CLARKSBURG
LOCATION OF PROJECT
CLARK DIST
WEST FORK RIVER
DIST LINE
COLBURN CREEK
UNION DIST
LAT N 39°15'
LONG W 80° 23'
N
WORK SITE I
MINE OPENING 1
MINE NO 62-067
DWG NO -102-2
BASE LINE
COAL HAUL ROAD
WASTE AREA
MINE WATER DRAIN
OPEN DITCH
WORK SITE II
MINE OPENING 2
MINE NO 62-067
DWG NO -102-3
BOTTOM OF HIGHWALL
MINED OUT AREA
WORK SITE IV
MINE OPENING 4
MINE NO 62-067
DWG NO -102-5
WORK SITE III
MINE OPENING 3
MINE NO 62-067
DWG NO -102-4
6" GAS LINE
WORK SITE V
MINE OPENING 5
MINE NO 62-067
DWG NO -102-6
MINE SITE MAP
0 50 100 150 200 FEET
SCALE
COAL CONTOUR = 1 FT
CONTOUR INTERVAL = 10 FT
3 - SUBSIDENCE CAVITY - FILL & GRADE
U. S. DEPARTMENT OF
FEDERAL WATER
CONTROL ADMINI
MONONGAHELA RIV
DRAINAGE REMEDIAL
UPPER WEST FORK RIV
WEST VIRGI
DRAWING NO. - 10

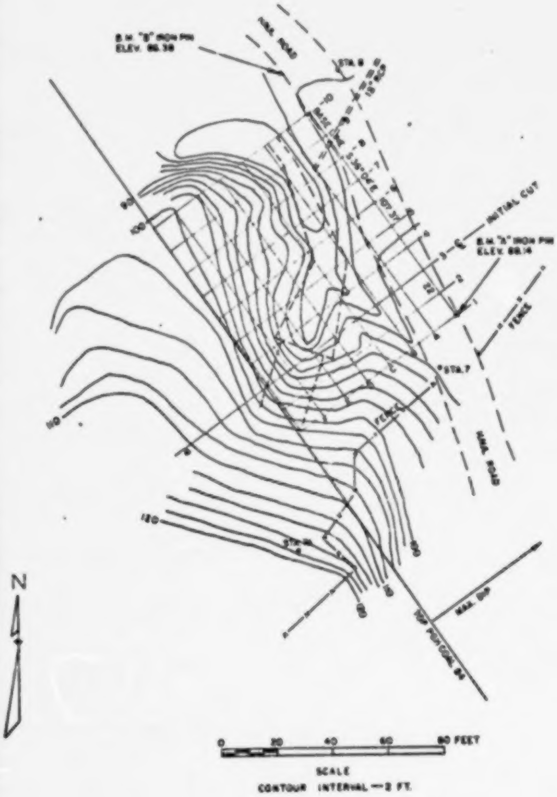

N
CLARKSBURG
RUN
DIST
CLARK
DIST
LINE
WEST FORK RIVER
COLEMAN CREEK
UNION DIST
LONG W 80° 25
WORK SITE I
MINE OPENING 1
MINE NO 62-067
DWG NO -102-2
BASE LINE
COAL HAUL ROAD
BOTTOM OF HIGHWALL
WASTE AREA
84
85
86
87
70
80
90
100
110
120
130
140
150
MINE WATER DRAIN
OPEN DITCH
WORK SITE II
MINE OPENING-2
MINE NO 62-067
DWG NO -102-3
BOTTOM OF HIGHWALL
MINED OUT AREA
WORK SITE IV
MINE OPENING 4
MINE NO. 62-067
DWG NO -102-5
WORK SITE III
MINE OPENING 3
MINE NO 62-067
DWG NO -102-4
6" GAS LINE
FROM SURVEY STA 11 TO E OF MINE DRAIN
MINED OUT AREA
SANDSTONE
SHALE
SANDSTONE
SHALE
SHALE
SLATE
LIMESTONE
SHALE
MINE NO 62-067
BASE LINE
WORK SITE V
MINE OPENING-5
MINE NO 62-067
DWG NO -102-6
0
50
100
150
200FEET
SCALE
COAL CONTOUR = 1 FT
CONTOUR INTERVAL = 10 FT
3
= SUBSIDENCE CAVITY - FILL & GRADE

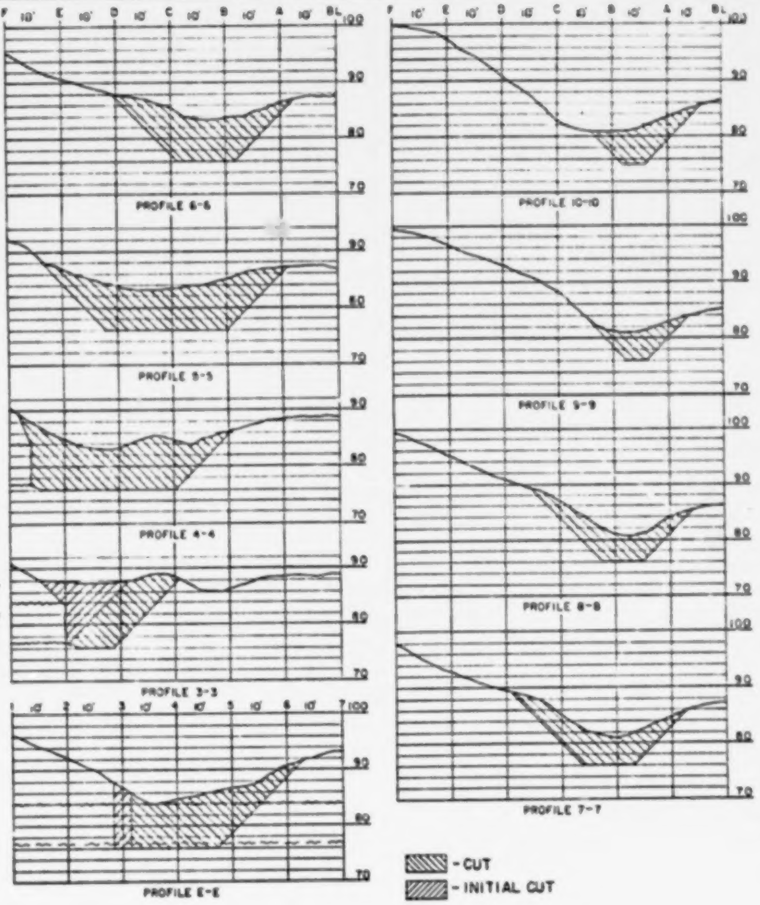
MINE SITE MAP

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO - 102-1

WORK SITE I

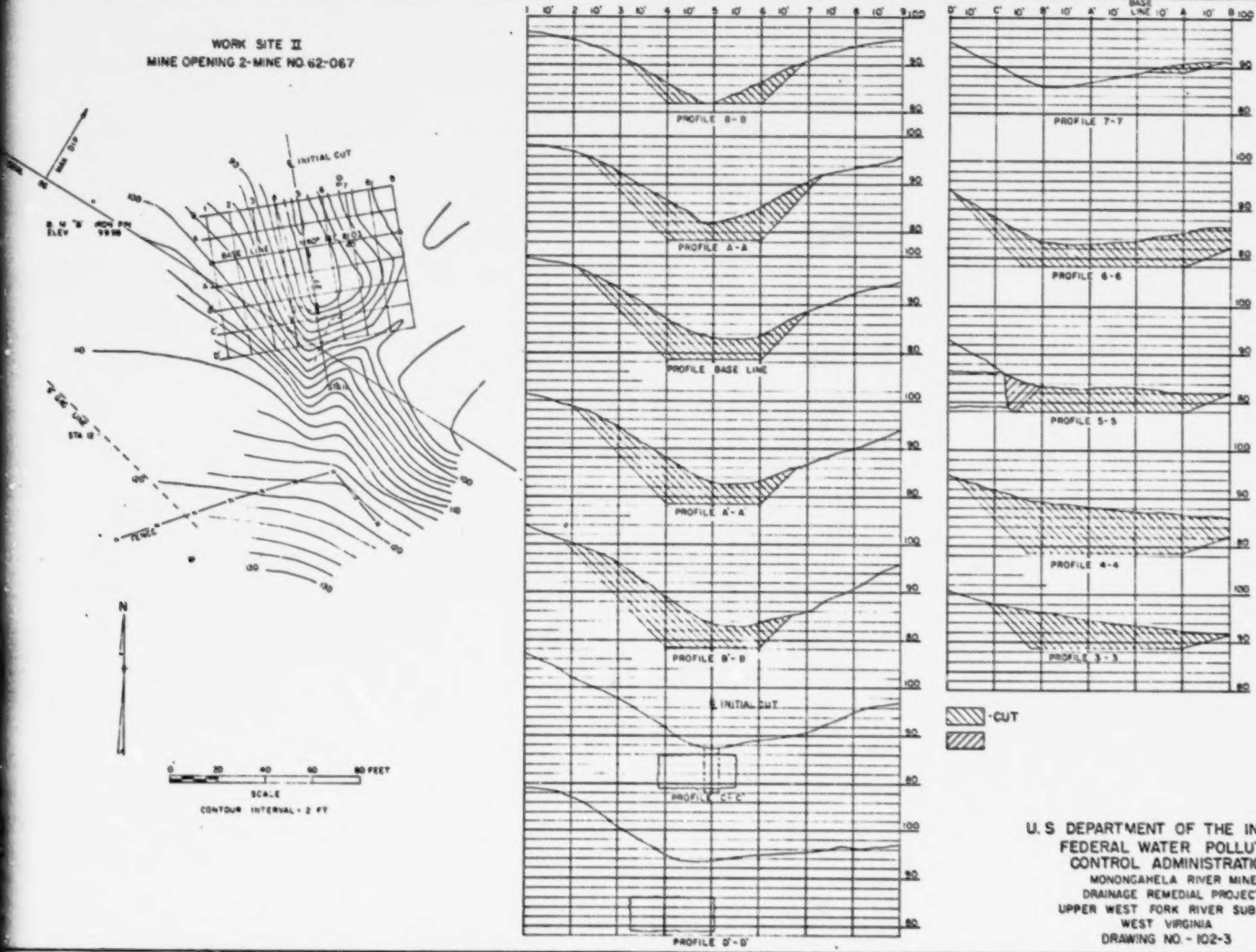
MINE OPENING I - MINE NO. 62-067


B.M. "B" IRON PIN
ELEV. 86.38
HAUL ROAD
STA. 8
INITIAL CUT
B.M. "A" IRON PIN
ELEV. 88.14
FENCE
STA. 7
FENCE
HAUL ROAD
90
100
110
120
MAX. DIP
N
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL — 2 FT.


PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE E-E
PROFILE 10-10
PROFILE 9-9
PROFILE 8-8
PROFILE 7-7
F
E
D
C
B
A
BL
10'
100
90
80
70
▧ - CUT
▨ - INITIAL CUT

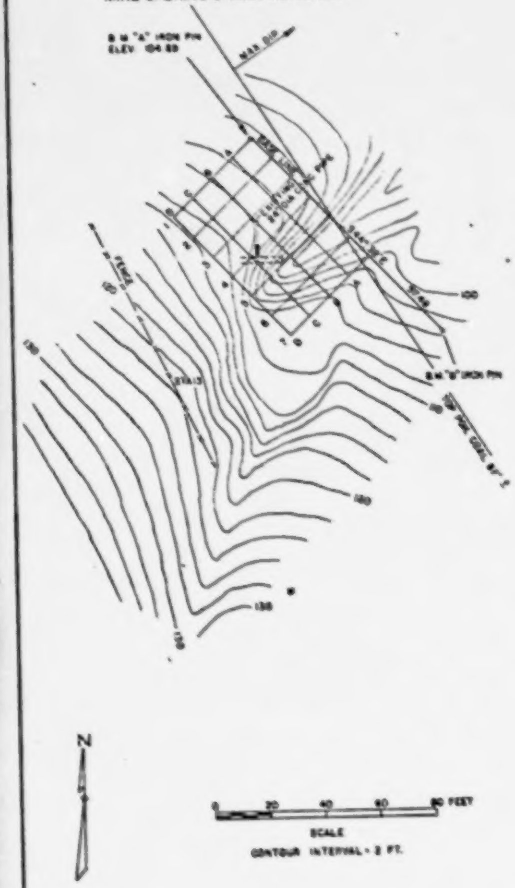
U.S. DEPARTMENT OF THE INTERIO
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 102-2

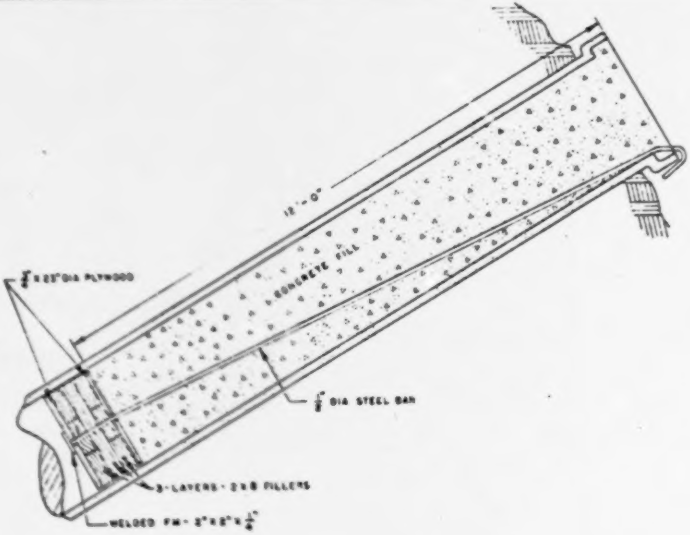
WORK SITE II
MINE OPENING 2-MINE NO. 62-067


INITIAL CUT
BASE LINE
STA 10
B. M. "B" IRON PIN ELEV 99.98
FENCE
N
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL - 2 FT
PROFILE B-B
PROFILE A-A
PROFILE BASE LINE
PROFILE A'-A'
PROFILE B'-B'
℄ INITIAL CUT
PROFILE C'-C'
PROFILE D'-D'
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
100
90
80
▨ -CUT

U. S DEPARTMENT OF THE INTERI
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 102-3

WORK SITE III
MINE OPENING 3-MINE NO. 62-067


B.M. "A" IRON PIN
ELEV. 104.89
MAX. DIP
BASE LINE
FENCE
STAKE
100
110
120
130
B.M. "B" IRON PIN
SCALE
0
20
40
60
80 FEET
CONTOUR INTERVAL - 2 FT.
N

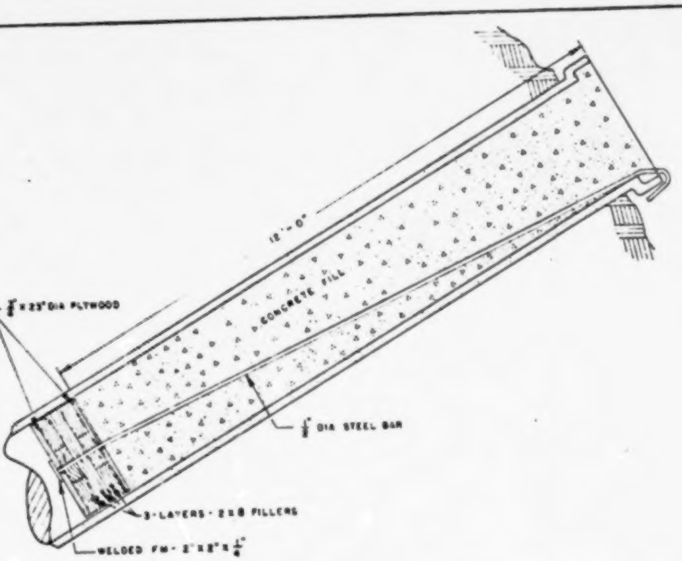

12'-0"
CONCRETE FILL
$\frac{3}{4}$" x 23" DIA. PLYWOOD
$\frac{1}{2}$" DIA. STEEL BAR
3-LAYERS - 2 x 8 FILLERS
WELDED FM - 2" x 2" x $\frac{1}{4}$"

SECTION THRU EXISTING
CONCRETE PIPE

U. S. DEPARTMENT OF T
FEDERAL WATER P
CONTROL ADMINIST
MONONGAHELA RIVE
DRAINAGE REMEDIAL
UPPER WEST FORK RIVE
WEST VIRGINIA
DRAWING NO. - 10

III
NO. 62-067

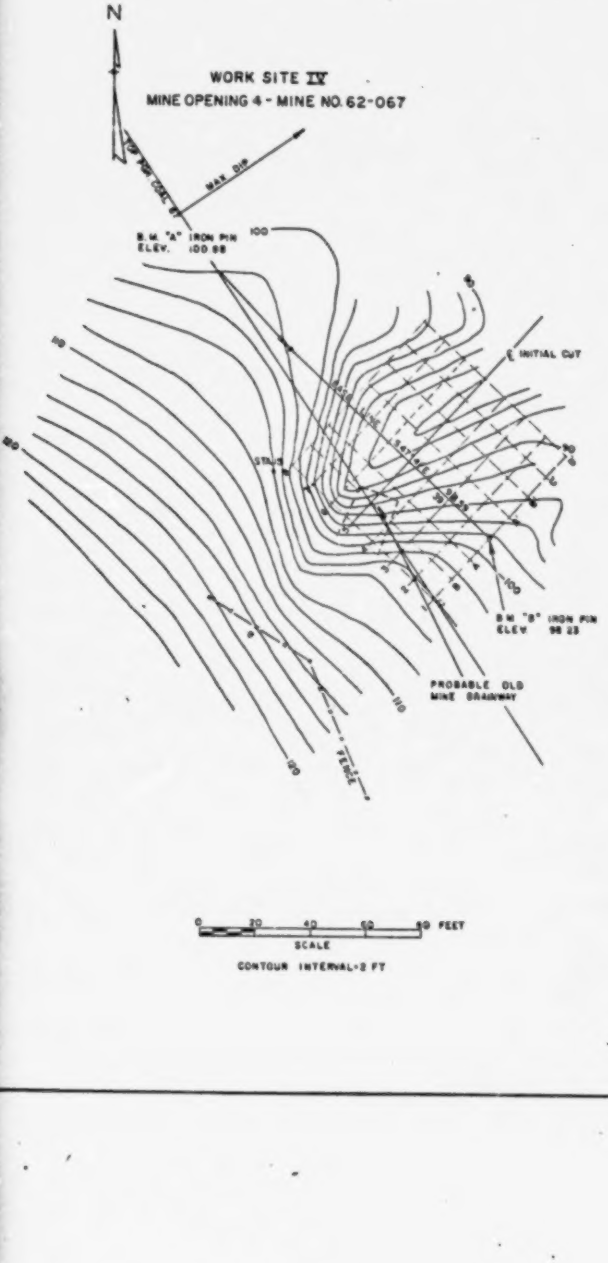
5749
100
B.M. "X" IRON PIN
110
TOP PGH COAL 67' ±
120
20 40 60 80 FEET
SCALE
CONTOUR INTERVAL - 2 FT.

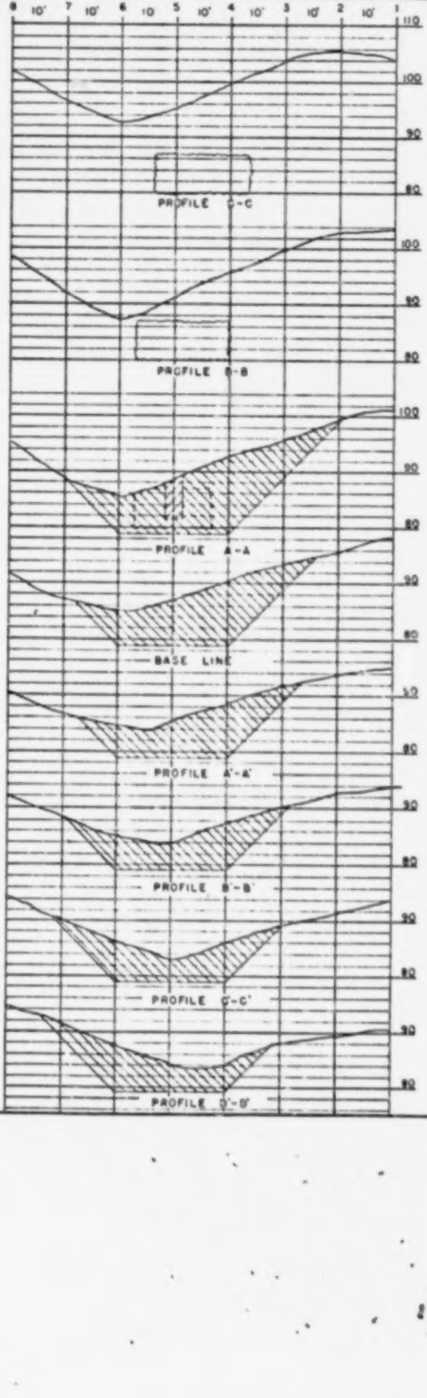

12' - 0"
CONCRETE FILL
3/4" x 23" DIA PLYWOOD
1/2" DIA STEEL BAR
3 - LAYERS - 2 x 8 FILLERS
WELDED FM - 2" x 2" x 1/4"

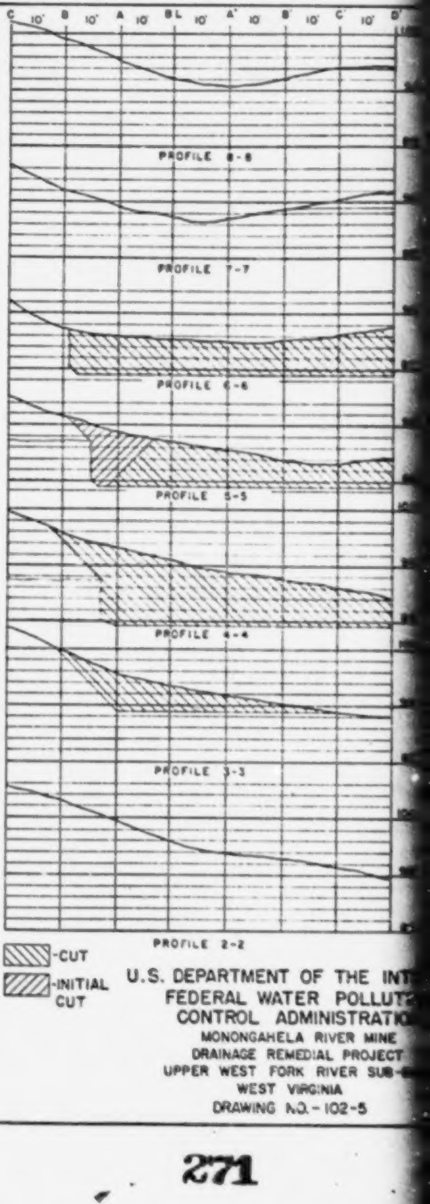
SECTION THRU EXISTING
CONCRETE PIPE

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 102-4

WORK SITE IV
MINE OPENING 4 - MINE NO. 62-067


N
MAX DIP
B.M. "A" IRON PIN
ELEV. 100.98
100
110
120
BASE LINE
STA
℄ INITIAL CUT
B.M. "B" IRON PIN
ELEV. 98.23
PROBABLE OLD
MINE DRAINWAY
FENCE
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL-2 FT

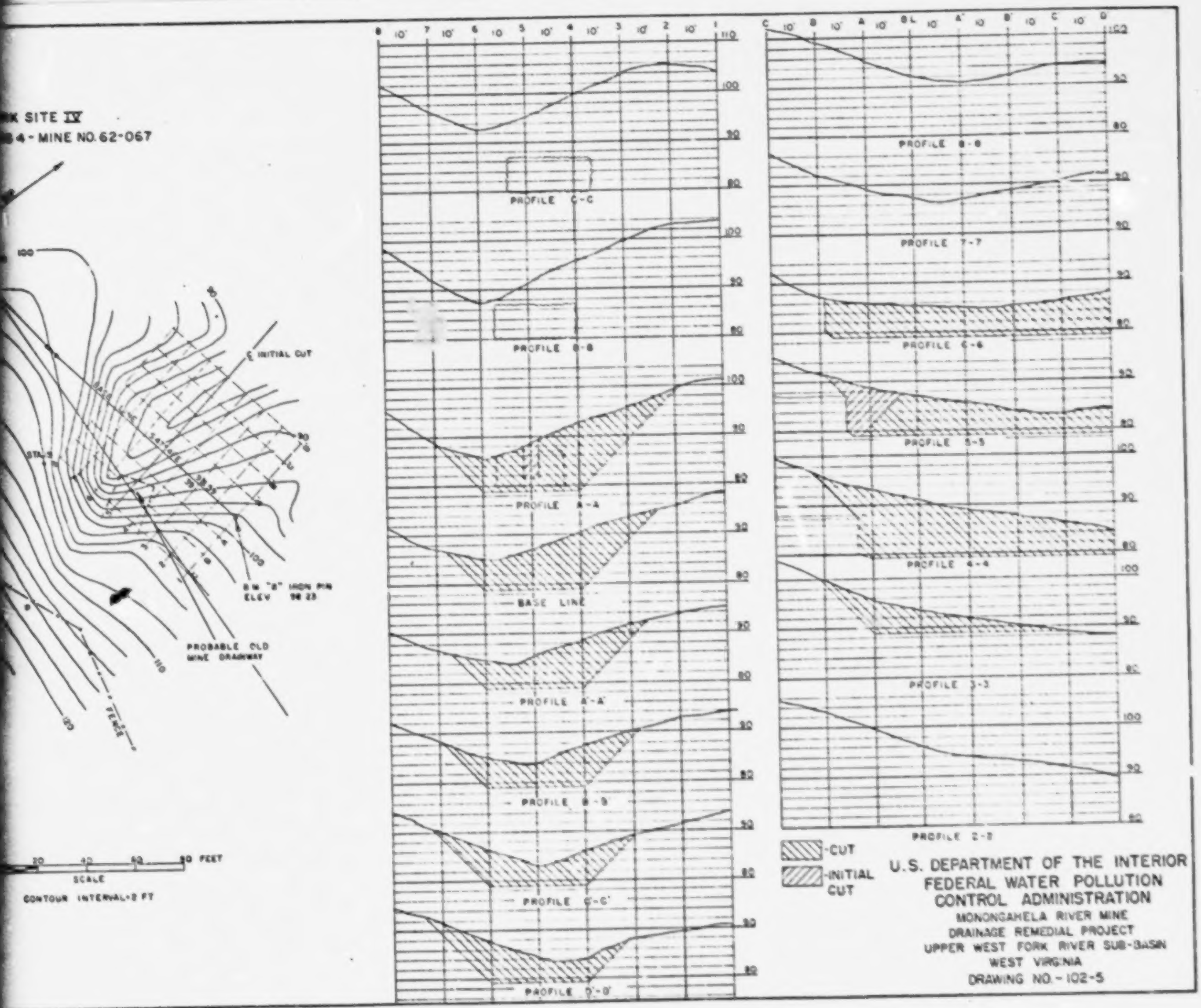

8
7
6
5
4
3
2
1
10'
110
100
90
80
PROFILE C-C
PROFILE B-B
PROFILE A-A
BASE LINE
PROFILE A'-A'
PROFILE B'-B'
PROFILE C'-C'
PROFILE D'-D'


C
B
A
BL
A'
B'
C'
D'
10'
PROFILE 8-8
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2

▧ -CUT

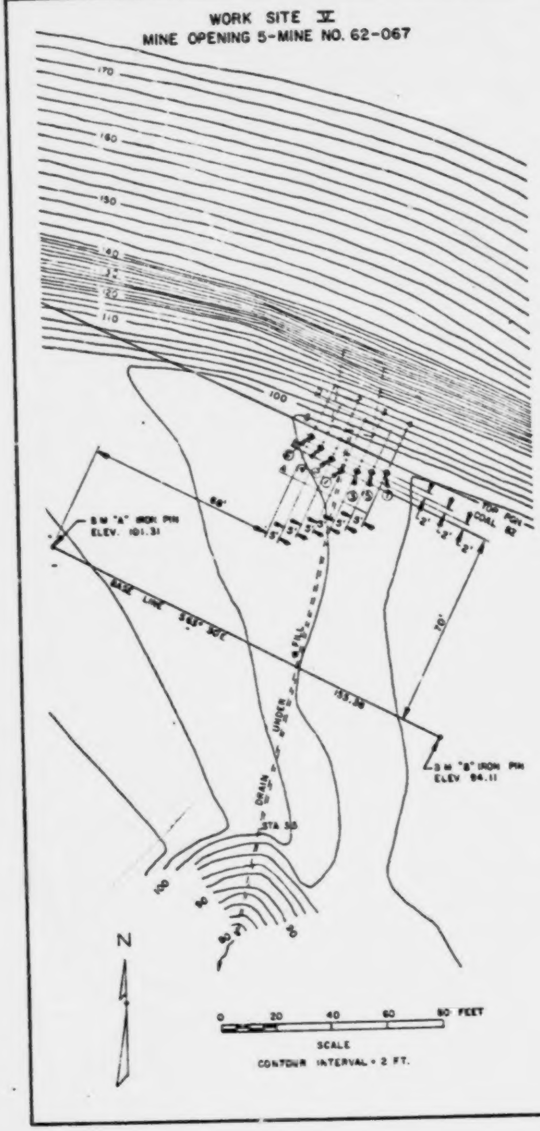
▨ -INITIAL CUT

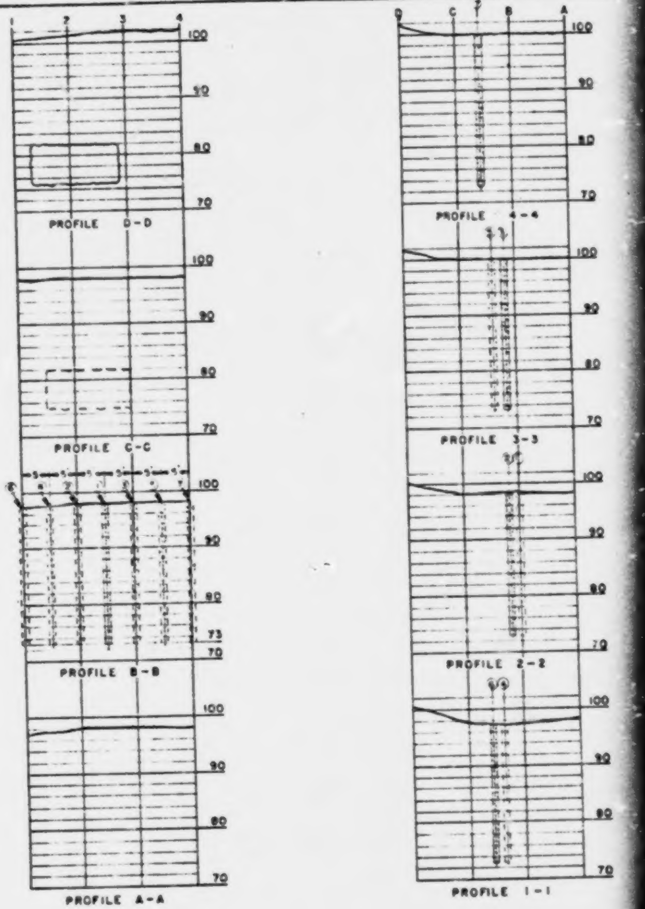
U.S. DEPARTMENT OF THE INT
FEDERAL WATER POLLUT
CONTROL ADMINISTRATIO
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-
WEST VIRGINIA
DRAWING NO. - 102-5


K SITE IV
4 - MINE NO. 62-067
100
90
110
120
INITIAL CUT
BASE LINE
STA. 5
B.M. "2" IRON PIN
ELEV 98.23
PROBABLE OLD
MINE DRAINWAY
FENCE
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL-2 FT
PROFILE C-C
PROFILE B-B
PROFILE A-A
BASE LINE
PROFILE A'-A'
PROFILE B'-B'
PROFILE C'-C'
PROFILE D'-D'
PROFILE 8-8
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
CUT
INITIAL CUT

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 102-5

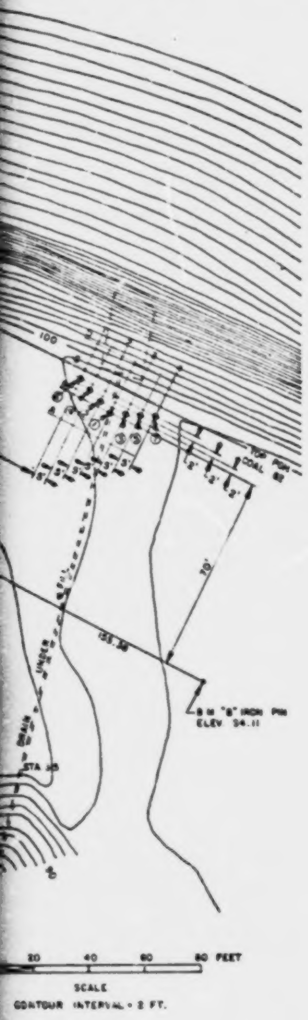
WORK SITE V
MINE OPENING 5-MINE NO. 62-067

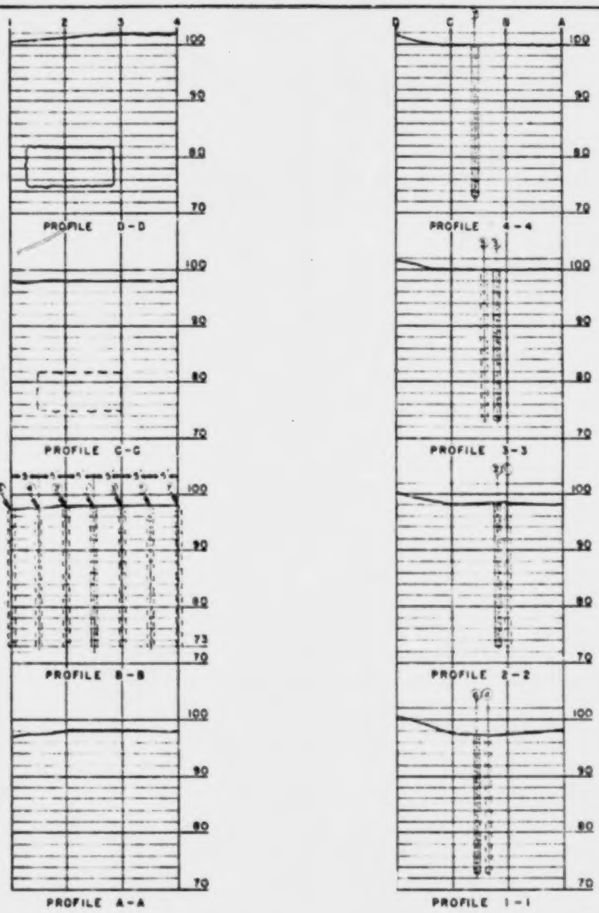

170
160
150
140
130
120
110
100
B.M. "A" IRON PIN
ELEV. 101.31
BASE LINE S63° 30'E
88'
155.86
70'
B.M. "B" IRON PIN
ELEV. 94.11
FILL
UNDER DRAIN
STA 3.0
TOP PGH COAL 62
2'
3'
N
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.


1
2
3
4
D
C
B
A
100
90
80
73
70
5'
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1

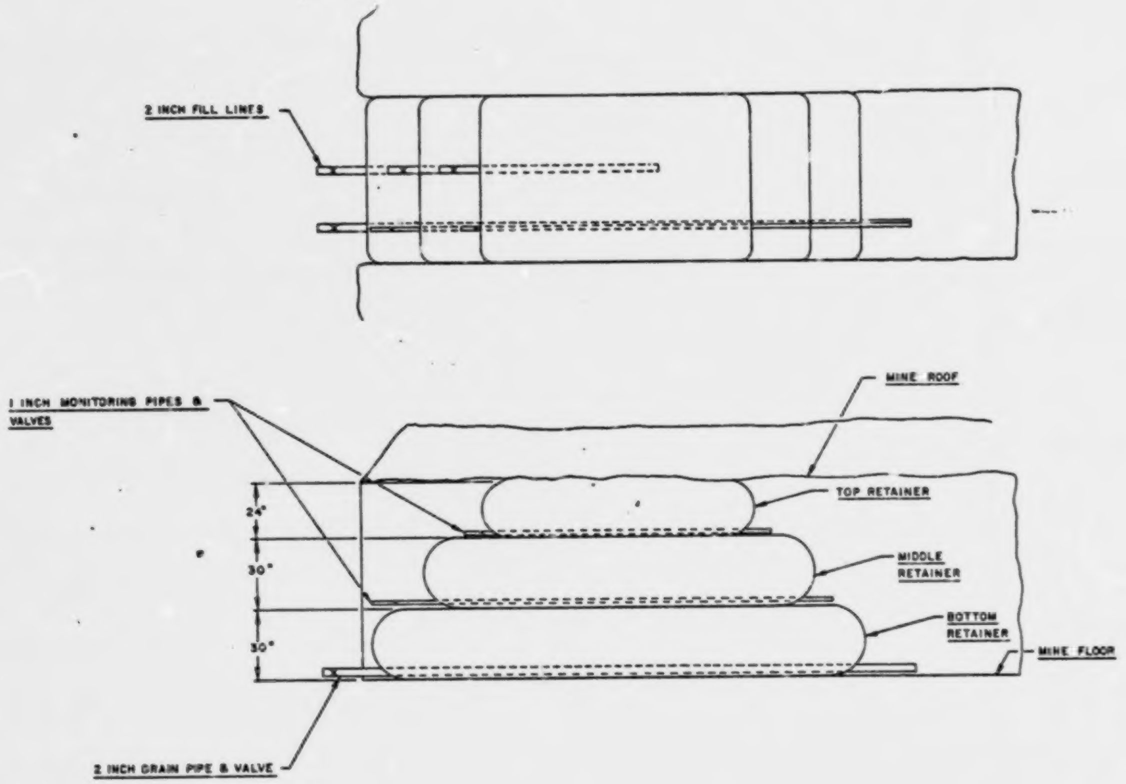
U.S. DEPARTM
FEDERAL
CONTRO
MONON
DRAINAGE
UPPER WES
DRAW

ORK SITE X
ING 5-MINE NO. 62-067

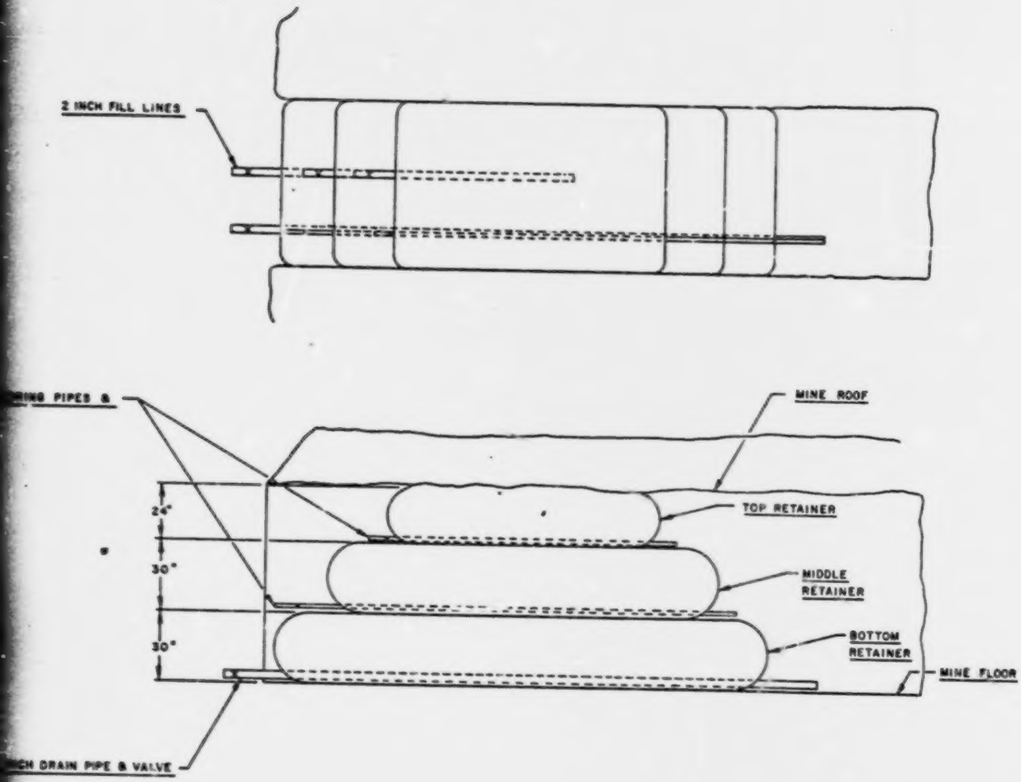

100
3'
2'
TOP POR
COAL 82
70'
125.38
UNDER
DRAIN
STA 1+5
B.M. "B" IRON PIN
ELEV. 94.11
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.


1
2
3
4
D
C
B
A
100
90
80
73
70
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 4-4
PROFILE 3-3
PROFILE 2-2
PROFILE 1-1

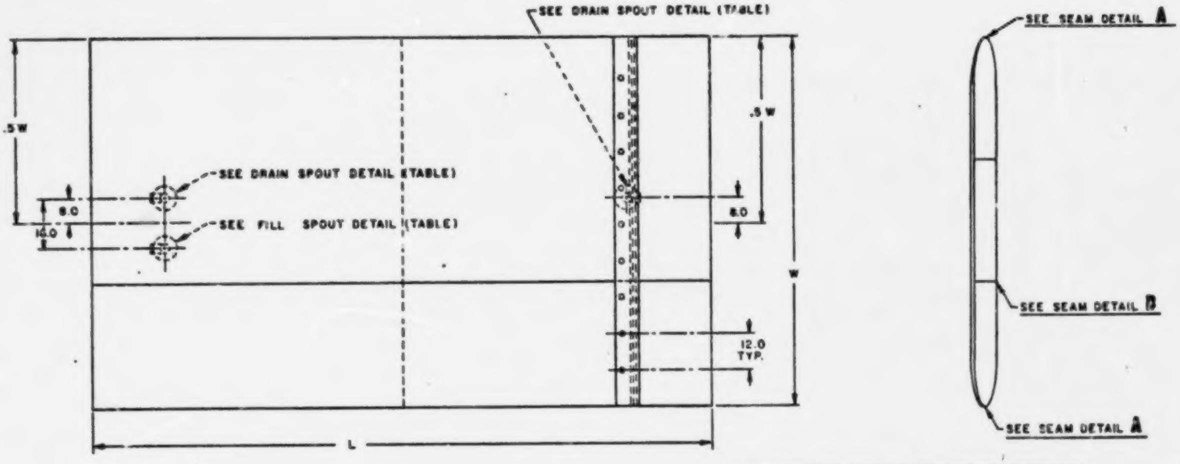
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-102-6

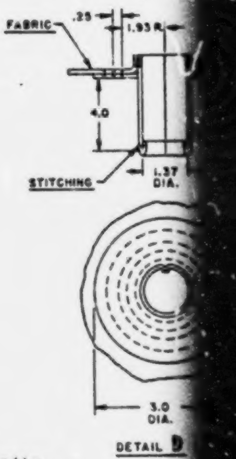

2 INCH FILL LINES
1 INCH MONITORING PIPES & VALVES
MINE ROOF
TOP RETAINER
MIDDLE RETAINER
BOTTOM RETAINER
MINE FLOOR
24"
30"
30"
2 INCH DRAIN PIPE & VALVE

MINE PLUG-TYPICAL
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INT
FEDERAL WATER POLLUTI
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-
WEST VIRGINIA
DRAWING NO. - 101-6

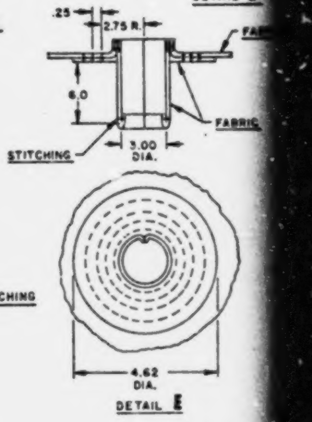

2 INCH FILL LINES
RING PIPES &
MINE ROOF
24"
TOP RETAINER
30"
MIDDLE RETAINER
30"
BOTTOM RETAINER
MINE FLOOR
NCH DRAIN PIPE & VALVE

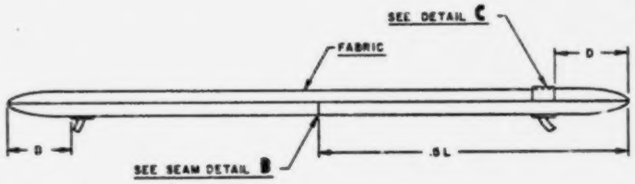
MINE PLUG-TYPICAL
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-6

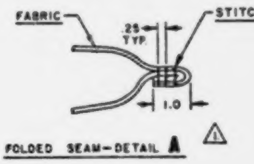

SEE DRAIN SPOUT DETAIL (TABLE)
.5 W
.5 W
SEE DRAIN SPOUT DETAIL (TABLE)
SEE FILL SPOUT DETAIL (TABLE)
8.0
16.0
8.0
W
12.0 TYP.
L
SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A

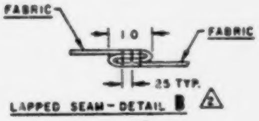

FABRIC
.25
1.93 R.
4.0
STITCHING
1.37 DIA.
3.0 DIA.
DETAIL D

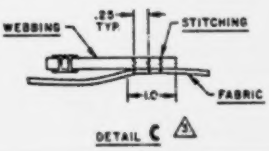
RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E


.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00 DIA.
4.62 DIA.
DETAIL E


SEE DETAIL C
FABRIC
D
D
.5 L
SEE SEAM DETAIL B


FABRIC
.25 TYP.
STITCHING
1.0
FOLDED SEAM–DETAIL A △1


FABRIC
1.0
FABRIC
.25 TYP.
LAPPED SEAM–DETAIL B △2

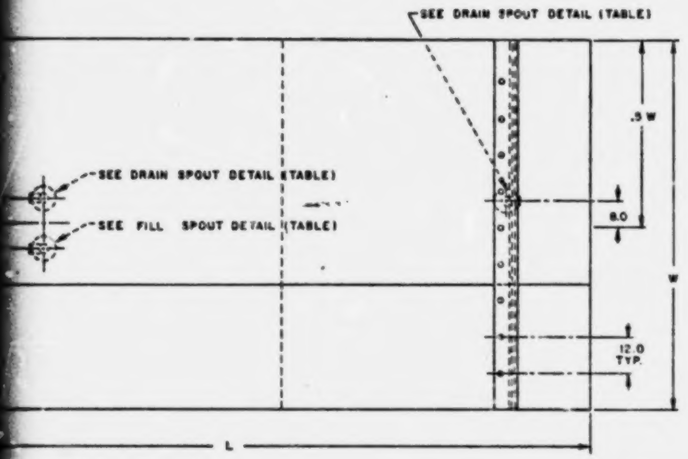

WEBBING
.25 TYP.
STITCHING
1.0
FABRIC
DETAIL C △3

△1 SEAM AS PER DETAIL **A** TO HAVE MINIMUM TENSILE STRENGTH OF 100 LBS/IN.

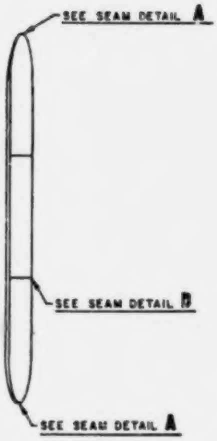
△2 SEAM AS PER DETAIL **B** TO HAVE MINIMUM TENSILE STRENGTH OF 200 LBS/IN.

△3 STITCHING OF WEBBING TO FABRIC TO FORM CONNECTION HAVING MINIMUM TENSILE STRENGTH OF 50 LBS/IN.

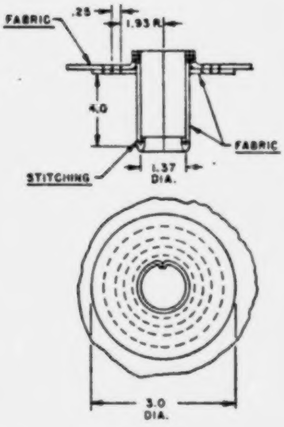
DIMENSIONAL SPECIFIC
EXPENDABLE GROUT
U. S. DEPARTMENT OF TH
FEDERAL WATER PO
CONTROL ADMINIST
MONONGAHELA RIVE
DRAINAGE REMEDIAL
UPPER WEST FORK RIVE
WEST VIRGINIA
DRAWING NO. -101-



SEE DRAIN SPOUT DETAIL (TABLE)
SEE DRAIN SPOUT DETAIL (TABLE)
SEE FILL SPOUT DETAIL (TABLE)
.5 W
8.0
W
12.0 TYP.
L

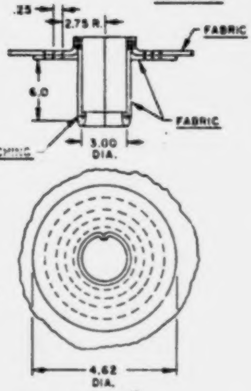


SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A



FABRIC
.25
1.93 R.
4.0
FABRIC
STITCHING
1.37 DIA.
3.0 DIA.

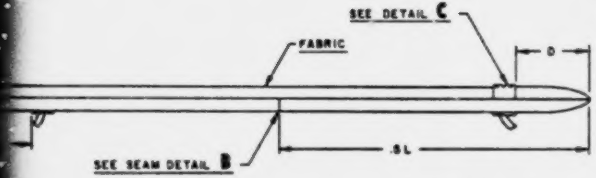
DETAIL D



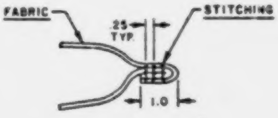
.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00 DIA.
4.62 DIA.

DETAIL E

RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E

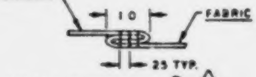


SEE DETAIL C
FABRIC
D
SEE SEAM DETAIL B
.5L



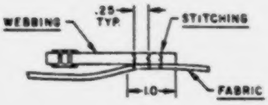
FABRIC
.25 TYP.
STITCHING
1.0

FOLDED SEAM—DETAIL A △1



FABRIC
1.0
FABRIC
.25 TYP.

LAPPED SEAM—DETAIL B △2

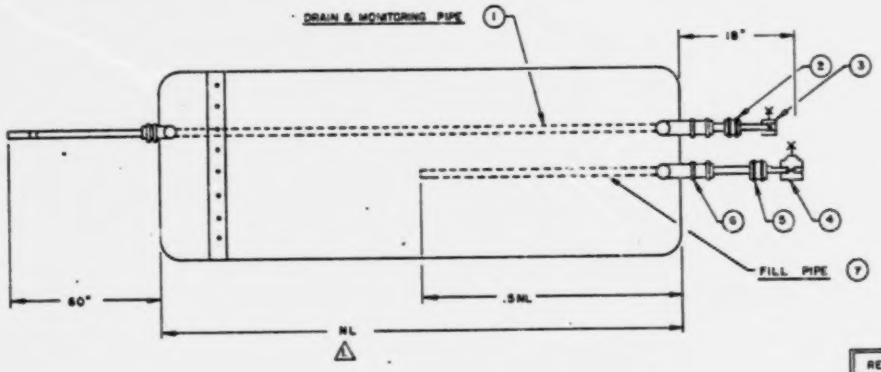


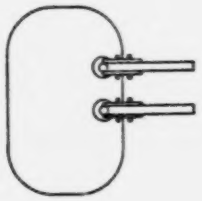
WEBBING
.25 TYP.
STITCHING
1.0
FABRIC

DETAIL C △3

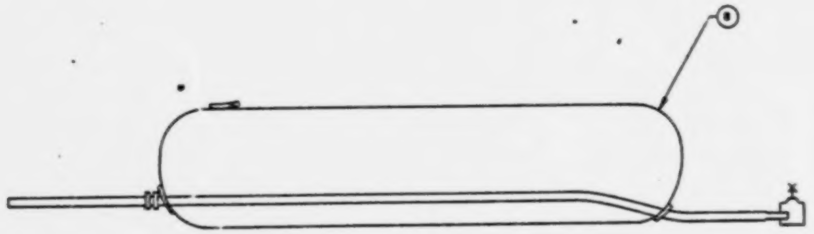
DETAIL A TO HAVE MINIMUM TENSILE
100 LBS/IN.
DETAIL B TO HAVE MINIMUM TENSILE
200 LBS/IN.
WEBBING TO FABRIC TO FORM CONNECTION
TENSILE STRENGTH OF 50 LBS/IN.

DIMENSIONAL SPECIFICATIONS
EXPENDABLE GROUT RETAINER
U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-7


DRAIN & MONITORING PIPE
①
18"
②
③
④
⑤
⑥
FILL PIPE
⑦
60"
.5NL
NL
△



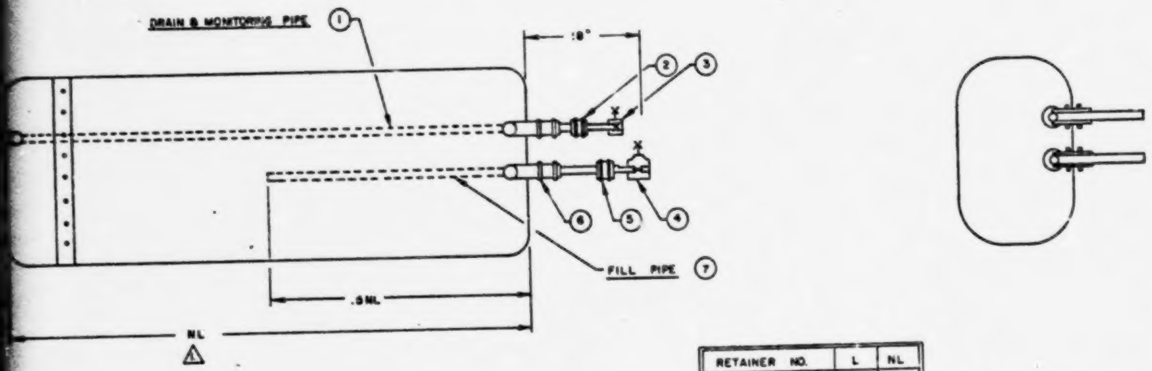
RETAINER NO.	L	NL
1. (BOTTOM)	24	20
2.	20	16
3.	16	13
4. (TOP)	13	10



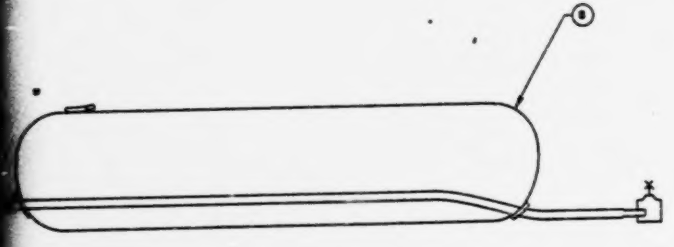
LOC	NO REQ'D.	MATERIAL REQUIRED
1	1	MONITORING & DRAIN PIPE
2	2	ADAPTER
3	1	MONITORING AND/OR DRAIN VALVE
4	1	FILL VALVE
5	4	ADAPTER CLAMPS
6	6	RETAINER CONNECTOR CLAMPS
7	1	FILL PIPE
8	1	RETAINER

△ NL = NOMINAL LENGTH OF RETAINER AFTER FILLING

ASSEMBLY
EXPENDABLE GROUT RETA
U.S. DEPARTMENT OF THE
FEDERAL WATER POLL
CONTROL ADMINISTRA
MONONGAHELA RIVER M
DRAINAGE REMEDIAL PRO
UPPER WEST FORK RIVER
WEST VIRGINIA
DRAWING NO.-101-



RETAINER NO.	L	NL
1. (BOTTOM)	24	20
2.	20	16
3.	16	13
4. (TOP)	13	10



TH OF RETAINER AFTER FILLING

LOC.	NO. REQ'D.	MATERIAL REQUIRED
1	1	MONITORING & DRAIN PIPE
2	2	ADAPTER
3	1	MONITORING AND/OR DRAIN VALVE
4	1	FILL VALVE
5	[illegible]	ADAPTER CLAMPS
6	5	RETAINER CONNECTOR CLAMPS
7	1	FILL PIPE
8	1	RETAINER

ASSEMBLY
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-101-8

PLANS AND SPECIFICATIONS FOR REMEDIAL CONSTRUCTION

MINES NO. 64-014, 64-016 AND 64-017

Monongahela River Mine Drainage Remedial Project
Upper West Fork River Sub-basin
West Virginia

UNITED STATES DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
633 Indiana Avenue, N.W.
Washington, D.C. 20242

PLANS AND SPECIFICATIONS FOR REMEDIAL CONSTRUCTION ON MINES NO. 64-014, 64-016 and 64-017 MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

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PART I - DESCRIPTION OF WORK

The work included in these specifications covers all construction operations necessary in the performance of site preparation and remedial work for abatement of mine drainage pollution on mine numbers 64-014, 64-016 and 64-017.

This drift mine complex of approximately 60 acres is located one mile south of Clarksburg, West Virginia on U.S. Highway 19 in Harrison County, as marked on the Vicinity and Mine Site Map, Drawing No. 101-1.

This complex, known as the Dolan Mine, has a total of six apparent openings in the Pittsburg seam, located on the north face of the mountain, all of which are draining. The mine site has been stripped around the periphery of the mountain and local subsidences have been noted above several of the openings. There is a 10" active gas pipeline across the site belonging to the Hope Natural Gas Company. The Contractor shall take necessary precautions to prevent damage to this line during the project.

All openings are marked on Drawing No. 101-1, Vicinity and Mine Site Map, which also includes pertinent views of the mine workings. Opening No. 1 (64-016) is located on the eastern end of the north face. A detail of this work site is shown on Drawing No. 101-2. Openings 2, 3 and 4 (64-017) are located midway on the north face. Drawing Nos. 101-3 and 101-4 show details of these openings. Opening No. 5 is at the western end of the north face. Opening No. 6 is not readily evident, but is adjacent to No. 5. This work site is shown in detail on Drawing No. 101-5. A typical stratigraphic section of the general area is included as part of Drawing No. 101-1.

Opening No. 1 is on the low side of the mine. Therefore, prior to remedial work on mine openings 1, 2 and 3 it will be necessary to drain the impounded water from the mine. Adequate precaution should be taken to control the drainage. Remedial work can begin at the opposite end in case time is needed for draining the water.

The work to be performed will include the following principal features:

a. Site layout and clearing of sites.

b. Drainage of impounded water from mine.

c. Construction of access road to Work Site IV.

d. Excavation of openings.

e. Sealing all six openings with Expendable Grout Retainer plugs.

STANDARD FORM 20
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INVITATION FOR BIDS
(CONSTRUCTION CONTRACT)

REFERENCE

DATE

NAME AND LOCATION OF PROJECT

DEPARTMENT OR AGENCY
U. S. Department of the Interior

BY (Issuing office)
U.S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N.W.
Washington, D.C. 20242

Sealed bids in duplicate for the work described herein will be received until

at

and at that time publicly opened.

Information regarding bidding material, bid guarantee, and bonds

A. BID BONDS. Each bidder shall submit with his bid a Bid Bond (Standard Form 24) with good and sufficient surety or sureties acceptable to the Government or other security as provided in paragraph 4 of Instructions to Bidders (Standard Form 22) in the form of twenty percent (20%) of the bid price or $3,000.00 whichever is lesser. The bid bond penalty may be expressed in terms of a percentage of the bid price or may be expressed in dollars and cents.

B. PERFORMANCE AND PAYMENT BONDS. Within 10 days after the prescribed forms are presented to the bidder to whom award is made for signature, a written contract on the form prescribed by the specifications shall be executed and two bonds, each with good and sufficient surety or sureties acceptable to the Government, furnished; namely a performance bond (Standard Form 25 or 27) and a payment bond (Standard Form 25A or 27A). The penal sums of such bonds will be as follows:

I. Performance Bond. The penal sum of the performance bond shall equal 100 percent of the contract price.

II. Payment Bond.

a. The penal sum will be fifty percent (50%) of the contract price.

Any bonds furnished will be furnished by the Contractor to the Government prior to commencement of contract performance.

Description of work: The work to be performed includes the following principal features:

Sealing of six openings of an abandoned coal mine. Approximately 2000 CY of excavation will be required.

The above general outline does not limit the work to be less than all that required under the plans and specifications.

U.S. GOVERNMENT PRINTING OFFICE 196?-O-57?-726

STANDARD FORM 22
JUNE 1964 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

INSTRUCTIONS TO BIDDERS

(CONSTRUCTION CONTRACT)

1. ***Explanations to Bidders.*** Any explanation desired by a bidder regarding the meaning or interpretation of the invitation for bids, drawings, specifications, etc., must be requested in writing and with sufficient time allowed for a reply to reach bidders before the submission of their bids. Any interpretation made will be in the form of an amendment of the invitation for bids, drawings, specifications, etc., and will be furnished to all prospective bidders. Its receipt by the bidder must be acknowledged in the space provided on the Bid Form (Standard Form 21) or by letter or telegram received before the time set for opening of bids. Oral explanations or instructions given before the award of the contract will not be binding.

2. ***Conditions Affecting the Work.*** Bidders should visit the site and take such other steps as may be reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Failure to do so will not relieve bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government will assume no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the contract, unless included in the invitation for bids, the specifications, or related documents.

3. ***Bidder's Qualifications.*** Before a bid is considered for award, the bidder may be requested by the Government to submit a statement regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

4. ***Bid Guarantee.*** Where a bid guarantee is required by the invitation for bids, failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

A bid guarantee shall be in the form of a firm commitment, such as a bid bond, postal money order, certified check, cashier's check, irrevocable letter of credit or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Bid guarantees, other than bid bonds, will be returned (*a*) to unsuccessful bidders as soon as practicable after the opening of bids, and (*b*) to the successful bidder upon execution of such further contractual documents and bonds as may be required by the bid as accepted.

If the successful bidder, upon acceptance of his bid by the Government within the period specified therein for acceptance (sixty days if no period is specified) fails to execute such further contractual documents, if any, and give such bond(s) as may be required by the terms of the bid as accepted within the time specified (ten days if no period is specified) after receipt of the forms by him, his contract may be terminated for default. In such event he shall be liable for any cost of procuring the work which exceeds the amount of his bid, and the bid guarantee shall be available toward offsetting such difference.

5. ***Preparation of Bids.*** (*a*) Bids shall be submitted on the forms furnished, or copies thereof, and must be manually signed. If erasures or other changes appear on the forms, each erasure or change must be initialed by the person signing the bid. Unless specifically authorized in the invitation for bids, telegraphic bids will not be considered.

(*b*) The bid form may provide for submission of a price or prices for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a bid on a unit of construction or a combination thereof, etc. Where the bid form explicitly requires that the bidder bid on all items, failure to do so will disqualify the bid. When submission of a price on all items is not required, bidders should insert the words "no bid" in the space provided for any item on which no price is submitted.

(*c*) Unless called for, alternate bids will not be considered.

(*d*) Modifications of bids already submitted will be considered if received at the office designated in the invitation for bids by the time set for opening of bids. Telegraphic modifications will be considered, but should not reveal the amount of the original or revised bid.

6. ***Submission of Bids.*** Bids must be sealed, marked, and addressed as directed in the invitation for bids. Failure to do so may result in a premature opening of, or a failure to open, such bid.

7. ***Late Bids and Modifications or Withdrawals.*** (*a*) Bids and modifications or withdrawals thereof received at the office designated in the invitation for bids after the exact time set for opening of bids will not be considered unless: (1) They are received before award is made; and either (2) they are sent by registered mail or by certified mail for which an official dated post office stamp (postmark) on the original Receipt for Certified Mail has been obtained, or by telegraph if authorized, and it is determined by the Government that the late receipt was due solely to delay in the mails, or delay by the telegraph company, for which the bidder was not responsible; or (3) if submitted by mail (or by telegram if authorized), it is determined by the Government that the late receipt was due solely to mishandling by the Government after receipt at the Government installation: *Provided,* That timely receipt at such installation is established upon examination of an appropriate date or time stamp (if any) of such installation, or of other documentary evidence of receipt (if readily available) within the control of such installation or of the post office serving it. However, a modification which makes the terms of the otherwise successful bid more favorable to the Government will be considered at any time it is received and may thereafter be accepted.

(*b*) Bidders using certified mail are cautioned to obtain a Receipt for Certified Mail showing a legible, dated postmark and to retain such receipt against the chance that it will be required as evidence that a late bid was timely mailed.

(*c*) The time of mailing of late bids submitted by registered or certified mail shall be deemed to be the last minute of the date shown in the postmark on the registered mail receipt or registered mail wrapper or on the Receipt for Certified Mail unless the bidder furnishes evidence from the post office station of mailing which establishes an earlier time. In the case of certified mail, the only acceptable evidence is as follows: (1) where the Receipt for Certified Mail identifies the post office station of mailing, evidence furnished by the bidder which establishes that the business day of that station ended at an earlier time, in which case the time of mailing shall be deemed to be the last minute of the business day of that station; or (2) an entry in ink on the Receipt for Certified Mail showing the time of mailing and the initials of the postal employee receiving the item and making the entry, with appropriate written verification of such entry from the post office station of mailing, in which case the time of mailing shall be the time shown in the entry. If the postmark on the original Receipt for Certified Mail does not show a date, the bid shall not be considered.

8. ***Withdrawal of Bids.*** Bids may be withdrawn by written or telegraphic request received from bidders prior to the time set for opening of bids.

9. ***Public Opening of Bids.*** Bids will be publicly opened at the time set for opening in the invitation for bids. Their content will be made public for the information of bidders and others interested, who may be present either in person or by representative.

10. ***Award of Contract.*** (*a*) Award of contract will be made to that responsible bidder whose bid, conforming to the invitation for bids, is most advantageous to the Government, price and other factors considered.

(*b*) The Government may, when in its interest, reject any or all bids or waive any informality in bids received.

(*c*) The Government may accept any item or combination of items of a bid, unless precluded by the invitation for bids or the bidder includes in his bid a restrictive limitation.

11. ***Contract and Bonds.*** The bidder whose bid is accepted will, within the time established in the bid, enter into a written contract with the Government and, if required, furnish performance and payment bonds on Government standard forms in the amounts indicated in the invitation for bids or the specifications.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1964—O-739-188

READ THE FOLLOWING IN CONJUNCTION WITH INSTRUCTIONS TO BIDDERS, U. S. STANDARD FORM 22:

1. Each bidder shall furnish a list of the plant and equipment available to the bidder and proposed for use on the work.

2. Sets of drawings reduced to half-size, and of specifications will be furnished upon receipt of payment of $5.00 per set. If individual plan sheets are requested they will be furnished at the rates of $0.20 for half-size for each sheet requested, but with a minimum charge of $1.00. The maximum charge shall not exceed the charge for a full set of plans. No refunds of the payment for drawings will be made and the drawings need not be returned to the District Engineer. Additional copies of the specifications alone will be furnished an applicant at the rate of $2.00 per copy. Payments will be made by cash, check or money order. Checks and money orders should be made payable to "Treasurer of the United States".

3. Modifications prior to date set for opening bids. The right is reserved, as the interest of the Government may require, to revise or amend the specifications and/or drawings prior to the date set for opening bids. Such revisions and amendment, if any, will be announced by an amendment or amendments to this Invitation for Bids. Copies of such amendments as may be issued will be furnished to all prospective bidders. If the revisions and amendments are of a nature which require material changes in quantities or prices bid or both, the date set for opening bids may be postposed by such number of days as in the opinion of the Contracting Officer will enable bidders to revise their bids. In such cases, the amendment will include an announcement of the new date for opening bids.

4. The Government further reserves the right to make award of any or all schedules of any bid, unless the bidder qualifies such bid by specific limitation; also to make award to the low bidder whose aggregate bid on any combination of bid schedules is low. For the purpose of this Invitation for Bids, the word item as used in paragraph 10 (c) of Standard Form 22, shall be considered to mean "schedule".

5. Bidders are required to acknowledge receipt of all amendments to this Invitation on the Bid Form (Standard Form 21) in the space provided, or by separate letter or telegram prior to opening of bids. Failure to acknowledge all amendments may cause rejection of the bid.

6. The bidder is advised that Standard Form 23, Construction Contract, together with Standard Form 23A, General Provisions (Construction Contracts), and Standard Form 19A, Labor Standard Provisions applicable to contracts in excess of $2,000, is enclosed for information only.

Attachments:
Std. Form 22, 23 & 23A including Pages
1 thru 14 (Civil) and Std. Form 19A

STANDARD FORM 23
JANUARY 1961 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

CONSTRUCTION CONTRACT

(See instructions on reverse)

CONTRACT NO

DATE OF CONTRACT

NAME AND ADDRESS OF CONTRACTOR

CHECK APPROPRIATE BOX

- ☐ Individual
- ☐ Partnership
- ☐ Joint Venture
- ☐ Corporation, incorporated in the State of ____________

DEPARTMENT OR AGENCY

CONTRACT FOR *(Work to be performed)*

PLACE

CONTRACT PRICE *(Express in words and figures)*

ADMINISTRATIVE DATA *(Optional)*

The United States of America (hereinafter called the Government), represented by the Contracting Officer executing this contract, and the individual, partnership, joint venture, or corporation named above (hereinafter called the Contractor), mutually agree to perform this contract in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), and the following designated specifications, schedules, drawings, and conditions:

WORK SHALL BE STARTED	WORK SHALL BE COMPLETED

23-103

Alterations. The following alterations were made in this contract before it was signed by the parties hereto:

In witness whereof, the parties hereto have executed this contract as of the date entered on the first page hereof.

THE UNITED STATES OF AMERICA	CONTRACTOR
By ______________________	______________________ *(Name of Contractor)*
______________________ *(Official title)*	By ______________________ *(Signature)*
	______________________ *(Title)*

INSTRUCTIONS

1. The full name and business address of the Contractor must be inserted in the space provided on the face of the form. The Contractor shall sign in the space provided above with his usual signature and typewrite or print his name under the signature.

2. An officer of a corporation, a member of a partnership, or an agent signing for the Contractor shall place his signature and title after the word "By" under the name of the Contractor. A contract executed by an attorney or agent on behalf of the Contractor shall be accompanied by two authenticated copies of his power of attorney or other evidence of his authority to act on behalf of the Contractor.

U. S. GOVERNMENT PRINTING OFFICE 1960 OF—[illegible]

STANDARD FORM 23-A
JUNE 1964 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

GENERAL PROVISIONS

(Construction Contract)

1. DEFINITIONS

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary, the Under Secretary, any Assistant Secretary, or any other head or assistant head of the executive or military department or other Federal agency; and the term "his duly authorized representative" means any person or persons or board (other than the Contracting Officer) authorized to act for the head of the agency or the Secretary.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative.

2. SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy either in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his own risk and expense. The Contracting Officer shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

3. CHANGES

The Contracting Officer may, at any time, by written order, and without notice to the sureties, make changes in the drawings and/or specifications of this contract if within its general scope. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment under this clause must be asserted in writing within 30 days from the date of receipt by the Contractor of the notification of change unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions; but nothing provided in this clause shall excuse the Contractor from proceeding with the prosecution of the work as changed. Except as otherwise provided in this contract, no charge for any extra work or material will be allowed.

4. CHANGED CONDITIONS

The Contractor shall promptly, and before such conditions are disturbed, notify the Contracting Officer in writing of: (a) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (b) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The Contracting Officer shall promptly investigate the conditions, and if he finds that such conditions do so materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of this contract, an equitable adjustment shall be made and the contract modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given notice as above required; or unless the Contracting Officer grants a further period of time before the date of final payment under the contract. If the parties fail to agree upon the adjustment to be made, the dispute shall be determined as provided in Clause 6 of these General Provisions.

5. TERMINATION FOR DEFAULT—DAMAGES FOR DELAY—TIME EXTENSIONS

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the Government may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the Government may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the Government resulting from his refusal or failure to complete the work within the specified time.

(b) If fixed and agreed liquidated damages are provided in the contract and if the Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If fixed and agreed liquidated damages are provided in the contract and if the Government does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any such delay (unless the Contracting Officer grants a further period of time before the date of final payment under the contract), notifies the Contracting Officer in writing of the causes of delay.

The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in Clause 6 of these General Provisions.

(e) If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be

the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

6. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged: *Provided, however*, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This Disputes clause does not preclude consideration of questions of law in connection with decisions provided for in paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

7. PAYMENTS TO CONTRACTOR

(a) The Government will pay the contract price as hereinafter provided.

(b) The Government will make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates approved by the Contracting Officer. If requested by the Contracting Officer, the Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments. In the preparation of estimates the Contracting Officer, at his discretion, may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site may also be taken into consideration (1) if such consideration is specifically authorized by the contract and (2) if the Contractor furnishes satisfactory evidence that he has acquired title to such material and that it will be utilized on the work covered by this contract.

(c) In making such progress payments, there shall be retained 10 percent of the estimated amount until final completion and acceptance of the contract work. However, if the Contracting Officer, at any time after 50 percent of the work has been completed, finds that satisfactory progress is being made, he may authorize any of the remaining progress payments to be made in full. Also, whenever the work is substantially complete, the Contracting Officer, if he considers the amount retained to be in excess of the amount adequate for the protection of the Government, at his discretion, may release to the Contractor all or a portion of such excess amount. Furthermore, on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made therefor without retention of a percentage.

(d) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work, or as waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(e) Upon completion and acceptance of all work, the amount due the Contractor under this contract shall be paid upon the presentation of a properly executed voucher and after the Contractor shall have furnished the Government with a release, if required, of all claims against the Government arising by virtue of this contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the operation of the release. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), a release may also be required of the assignee.

8. ASSIGNMENT OF CLAIMS

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), if this contract provides for payments aggregating $1,000 or more, claims for moneys due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any moneys due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff. (The preceding sentence applies only if this contract is made in time of war or national emergency as defined in said Act; and is with the Department of Defense, the General Services Administration, the Atomic Energy Commission, the National Aeronautics and Space Administration, the Federal Aviation Agency, or any other department or agency of the United States designated by the President pursuant to Clause 4 of the proviso of section 1 of the Assignment of Claims Act of 1940, as amended by the Act of May 15, 1951, 65 Stat. 41.)

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

9. MATERIAL AND WORKMANSHIP

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process which, in the judgment of the Contracting Officer, is equal to that named. The Contractor shall furnish to the Contracting Officer for his approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the Contractor contemplates incorporating in the work. When required by this contract or when called for by the Contracting Officer, the Contractor shall furnish the Contracting Officer for approval full information concerning the material or articles which he contemplates incorporating in the work. When so directed, samples shall

be submitted for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles installed or used without required approval shall be at the risk of subsequent rejection.

(b) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the Contractor to remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

10. Inspection and Acceptance

(a) Except as otherwise provided in this contract, inspection and test by the Government of material and workmanship required by this contract shall be made at reasonable times and at the site of the work, unless the Contracting Officer determines that such inspection or test of material which is to be incorporated in the work shall be made at the place of production, manufacture, or shipment of such material. To the extent specified by the Contracting Officer at the time of determining to make off-site inspection or test, such inspection or test shall be conclusive as to whether the material involved conforms to the contract requirements. Such off-site inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with Clause 5 of these General Provisions.

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

11. Superintendence By Contractor

The Contractor shall give his personal superintendence to the work or have a competent foreman or superintendent, satisfactory to the Contracting Officer, on the work at all times during progress, with authority to act for him.

12. Permits and Responsibilities

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State, and municipal laws, codes, and regulations, in connection with the prosecution of the work. He shall be similarly responsible for all damages to persons or property that occur as a result of his fault or negligence. He shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. He shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.

13. Conditions Affecting the Work

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Government. The Government assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of this contract, unless such understanding or representations by the Government are expressly stated in the contract.

14. Other Contracts

The Government may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with such other contractors and Government employees and carefully fit his own work to such additional work as may be directed by the Contracting Officer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by Government employees.

15. Patent Indemnity

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any Letters Patent of the United States (except Letters Patent issued upon an application which is now or may hereafter be, for reasons of national security, ordered by the Government to be kept secret or otherwise withheld from issue) arising out of the performance of this contract or out of the use or disposal by or for the account of the Government of supplies furnished or construction work performed hereunder.

16. Additional Bond Security

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

17. Covenant Against Contingent Fees

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

18. Officials Not To Benefit

No member of Congress or resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

19. BUY AMERICAN

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a–10d) and Executive Order 10582, December 17, 1954 (3 CFR Supp.), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic material listed in the contract.

(b) Domestic construction material. "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) Domestic component. A component shall be considered to have been "mined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

20. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

21. EQUAL OPPORTUNITY CLAUSE

(The following clause is applicable unless this contract is exempt under the rules and regulations of the President's Committee on Equal Employment Opportunity (41 CFR, Chapter 60). Exemptions include contracts and subcontracts (i) not exceeding $10,000, (ii) not exceeding $100,000 for standard commercial supplies or raw materials, and (iii) under which work is performed outside the United States and no recruitment of workers within the United States is involved.)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under this nondiscrimination clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(e) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the nondiscrimination clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked as provided in the said Executive order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. *The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**Unless otherwise provided, the Equal Opportunity Clause is not required to be inserted in subcontracts below the second tier except for subcontracts involving the performance of 'construction work' at the 'site of construction' (as those terms are defined in the Committee's rules and regulations) in which case the clause must be inserted in all such subcontracts. Subcontracts may incorporate by reference the Equal Opportunity Clause.*

22. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

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THE FOLLOWING ALTERATIONS HAVE BEEN MADE IN THE GENERAL PROVISIONS STANDARD FORM 23-A, JUNE 1964 EDITION, OF THIS CONTRACT:

1. DEFINITIONS. Entire clause deleted and the following substituted:

(a) The term "head of the agency" or "Secretary" as used herein means the Secretary of the Army; and the term "his duly authorized representative" means the Chief of Engineers, Department of the Army, or an individual or board designated by him.

(b) The term "Contracting Officer" as used herein means the person executing this contract on behalf of the Government and includes a duly appointed successor or authorized representative. (ECI 7-070 and ASPR 7-602.1)

5. TERMINATION FOR DEFAULT--DAMAGES FOR DELAY--TIME EXTENSIONS. Subparagraph (d) (1) deleted and the following substituted:

(1) The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Government in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers; and (ASPR 8-709 (b),

7. PAYMENTS TO CONTRACTOR. Where the contract amount exceeds $1,000,000 and the time of performance exceeds one year, the following is added to subparagraph (c):

Where the time originally specified for completion of this contract exceeds one year, the Contracting Officer, at any time after 50 percent of the work has been completed, if he finds that satisfactory progress is being made, may reduce the total amount retained from progress payments to an amount not less than 10 percent of the estimated value of the work remaining to be done under the contract or 1-1/2 percent of the total contract amount, whichever is the higher. In computing the total contract amount, for the purposes of the preceding sentence, the contract amount for any separate building, public work, or other division of the contract on which the price is stated separately in the contract and on which payment has been made in full, including retained percentage thereon under this clause shall be excluded. (ASPR 7-602. 7 (b))

19. BUY AMERICAN. Clause heading and subparagraph (a) deleted and the following substituted:

19. BUY AMERICAN ACT (OCT. 1966)

(a) Agreement. In accordance with the Buy American Act (41 U.S.C. 10a-10d), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for nondomestic construction material listed in the "Nondomestic Construction Materials" clause, if any, of this contract.

21. EQUAL OPPORTUNITY. The clause is amended by deleting references to the President's Committee on Equal Employment Opportunity, Executive Order 10925 of March 6, 1961, as amended, and Section 303 of Executive Order No. 10925 of March 6, 1961, as amended, and substituting therefor the Secretary of Labor, Executive Order No. 11246 of September 24, 1965, and Section 204 of Executive Order 11246 of September 24, 1965, respectively.

The following additional footnote is added to the clause:

"In accordance with regulations of the Secretary of Labor, the rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive Orders superseded by Executive Order 11246, shall, to the extent that they are not inconsistent with Executive Order 11246, remain in full force and effect unless and until revoked or superseded by appropriate authority. References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of Executive Order 11246."

THE FOLLOWING GENERAL PROVISIONS ARE APPENDED HERETO AND MADE A PART OF THIS CONTRACT:

23. CONTRACTOR INSPECTION SYSTEM (Nov 1964)

The Contractor shall (i) maintain an adequate inspection system and perform such inspections as will assure that the work performed under the contract conforms to contract requirements, and (ii) maintain and make available to the Government adequate records of such inspections. (ASPR 7-602. 10 (a))

24 GRATUITIES (Mar 1952)

(a) The Government may, by written notice to the Contractor, terminate the right of the Contractor to proceed under this contract if it is found, after notice and hearing, by the Secretary or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the Government with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such contract; provided, that the existence of the facts upon which the Secretary or his duly authorized representative makes such findings shall be in issue and may be reviewed in any competent court.

(b) In the event this contract is terminated as provided in paragraph (a) hereof, the Government shall be entitled (i) to pursue the same remedies against the Contractor as it could pursue in the event of a breach of the contract by the Contractor, and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the costs incurred by the Contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract. (ASPR 7-104. 16)

25. SMALL BUSINESS SUBCONTRACTING PROGRAM (MAINTENANCE, REPAIR AND CONSTRUCTION) (Mar 1964)

(Applicable to contracts in excess of $500,000.)

(a) The Contractor agrees to establish and conduct a small business subcontracting program which will enable small business concerns to be considered fairly as subcontractors, including suppliers, under this contract. In this connection, the Contractor shall designate an individual to (i) maintain liaison with the Government on small business matters, and (ii) administer the Contractor's Small Business Subcontracting Program.

(b) Prior to completion of the contract and as soon as the final information is available, the Contractor shall submit a completed DD Form 1140-1 to the Government addressees prescribed thereon. This subparagraph (b) is not applicable if the Contractor is a small business concern.

(c) The Contractor further agrees (i) to insert the "Utilization of Small Business Concerns" clause in subcontracts which offer substantial subcontracting opportunities, and (ii) to insert in each such subcontract exceeding $500,000 a clause conforming substantially to the language of this clause except that subcontractors shall submit DD Form 1140-1 direct to the Government addressees prescribed on the Form. The Contractor will notify the Contracting Officer of the name and address of each subcontractor that will be required to submit a report on DD Form 1140-1. (ASPR 1-707. 3 (c))

26. FEDERAL, STATE, AND LOCAL TAXES (Aug 1961)

(a) Except as may be otherwise provided in this contract, the contract price includes all applicable Federal, State, and local taxes and duties.

(b) Nevertheless, with respect to any Federal excise tax or duty on the transactions or property covered by this contract, if a statute, court decision, written ruling, or regulation takes effect after the contract date, and--

(1) results in the Contractor being required to pay or bear the burden of any such Federal excise tax or duty or increase in the rate thereof which would not otherwise have been payable on such transactions or property, the contract price shall be increased by the amount of such tax or duty or rate increase, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price as a contingency reserve or otherwise; or

(2) results in the Contractor not being required to pay or bear the burden of, or in his obtaining a refund or drawback of, any such Federal excise tax or duty which would otherwise have been payable on such transactions or property or which was the basis of an increase in the contract price, the contract price shall be decreased by the amount of the relief, refund, or drawback, or that amount shall be paid to the Government, as directed by the Contracting Officer. The contract price shall be similarly decreased if the Contractor, through his fault or negligence or his failure to follow instructions of the Contracting Officer, is required to pay or bear the burden of, or does not obtain a refund or drawback of, any such Federal excise tax or duty.

(c) No adjustment of less than $100 shall be made in the contract price pursuant to paragraph (b) above.

(d) As used in paragraph (b) above, the term "contract date" means the date set for bid opening, or if this is a negotiated contract, the contract date. As to additional supplies or services procured by modification to this contract, the term "contract date" means the date of such modification.

(e) Unless there does not exist any reasonable basis to sustain an exemption, the Government upon the request of the Contractor shall, without further liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax; provided that, evidence appropriate to establish exemption from any Federal excise tax or duty which may give rise to either an increase or decrease in the contract price will be furnished only at the discretion of the Government.

(f) The Contractor shall promptly notify the Contracting Officer of matters which will result in either an increase or decrease in the contract price, and shall take action with respect thereto as directed by the Contracting Officer. (ASPR 11-401. 1 (c))

27. RENEGOTIATION (Oct 1959)

(a) To the extent required by law, this contract is subject to the Renegotiation Act of 1951 (50 U.S.C. App. 1211, et seq.), as amended, and to any subsequent act of Congress providing for the renegotiation of contracts. Nothing contained in this clause shall impose any renegotiation obligation with respect to this contract or any subcontract hereunder which is not imposed by an act of Congress heretofore or hereafter enacted. Subject to the foregoing this contract shall be deemed to contain all the provisions required by Section 104 of the Renegotiation Act of 1951,

and by any such other act, without subsequent contract amendment specifically incorporating such provisions.

(b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in section 103g of the Renegotiation Act of 1951, as amended. (ASPR 7-103.13 (a))

28. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (Apr 1966)

(a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:

(i) stop work under the contract on the date and to the extent specified in the Notice of Termination;

(ii) place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(iii) terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(iv) assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(v) settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;

(vi) transfer title and deliver to the Government, in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (A) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (B) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government;

(vii) use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (vi) above; provided, however, that the Contractor (A) shall not be required to extend credit to any purchaser, and (B) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(viii) complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and

(ix) take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Section VIII, Armed Services Procurement Regulation, as it may be amended from time to time, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items, or if the items are stored, within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer, upon request of the Contractor made in writing within such one year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any Settlement Review Board approvals required by Section VIII of the Armed Services Procurement Regulation in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree, as provided in paragraph (d), upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any Settlement Review Board approvals required by Section VIII of the Armed

Services Procurement Regulation in effect as of the date of execution of this contract, pay to the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (d):

(i) with respect to all contract work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of —

(A) the cost of such work;

(B) the cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in paragraph (b) (v) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor prior to the effective date of the Notice of Termination of work under this contract, which amounts shall be included in the cost on account of which payment is made under (A) above; and

(C) a sum, as profit on (A) above, determined by the Contracting Officer pursuant to 8-303 of the Armed Services Procurement Regulation, in effect as of the date of execution of this contract, to be fair and reasonable, provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (C) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(ii) the reasonable cost of the preservation and protection of property incurred pursuant to paragraph (b) (ix); and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this contract.

The total sum to be paid to the Contractor under (i) above shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under (i) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b) (vii).

(f) Any determination of costs under paragraph (c) or (e) hereof shall be governed by the principles for consideration of costs set forth in Section XV, Part 4, of the Armed Services Procurement Regulation, as in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the clause of this contract entitled "Disputes", from any determination made by the Contracting Officer under paragraphs (c) or (e) above, except that if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (i) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (ii) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (i) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract, (ii) any claim which the Government may have against the Contractor in connection with this contract, and (iii) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government; Provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, micro-photographs, or other authentic reproductions thereof.
(ASPR 8-701 (a) and (c))

29. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (Jan 1965)

The provisions of this clause shall be applicable only if the amount of this contract exceeds $10,000.

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) This clause shall be included in all subcontracts.
(ASPR 9-104)

30. AUTHORIZATION AND CONSENT (Mar 1964)

The Government hereby gives its authorization and consent (without prejudice to any rights of indemnification) for all use and manufacture, in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract), of any invention described in and covered by a patent of the United States (i) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract, or (ii) utilized in the machinery, tools, or methods the use of which necessarily results from compliance by the Contractor or the using subcontractor with (a) specifications or written provisions now or hereafter forming a part of this contract, or (b) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clauses, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted. (ASPR 9-102.1)

31. COMPOSITION OF CONTRACTOR (Jan 1965)

If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder. (ASPR 7-602.32)

32. SITE INVESTIGATION (Jan 1965)

The Contractor acknowledges that he has investigated and satisfied himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from information presented by the drawings and specifications made a part of this contract. Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work. The Government assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Government. (ASPR 7-602.33)

33. PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS (Jan 1965)

(a) The Contractor will preserve and protect all existing vegetation such as trees, shrubs, and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by the Contracting Officer.

(b) The Contractor will protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to him, and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this contract or the failure to exercise reasonable care in the performance of the work. If the Contractor fails or refuses to repair any such damage promptly, the Contracting Officer may have the necessary work performed and charge the cost thereof to the Contractor. (ASPR 7-602.34)

34. OPERATIONS AND STORAGE AREAS (Jan 1965)

(a) All operations of the Contractor (including storage of materials) upon Government premises shall be confined to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by his operations.

(b) Temporary buildings (storage sheds, shops, offices, etc.) may be erected by the Contractor only with the approval of the Contracting Officer, and shall be built with labor and materials furnished by the Contractor without expense to the Government. Such temporary buildings and utilities shall remain the property of the Contractor and shall be removed by him at his expense upon the completion of the work. With the written consent of the Contracting Officer, such buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways or construct and use such temporary roadways as may be authorized by the Contracting Officer. Where materials are transported in the prosecution of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbings or sidewalks, protection against damage shall be provided by the Contractor and any damaged roads, curbings, or sidewalks shall be repaired by, or at the expense of the Contractor. (ASPR 7-602.35)

35. PROGRESS CHARTS AND REQUIREMENTS FOR OVERTIME WORK (Jan 1965)

(a) The Contractor shall within 5 days or within such time as determined by the Contracting Officer, after date of commencement of work, prepare and submit to the Contracting Officer for approval a practicable schedule, showing the order in which the Contractor proposes to carry on the work, the date on which he will start the several salient features (including procurement of materials, plant and equipment) and the contemplated dates for completing the same. The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion at any time. The Contractor shall enter on the chart the actual progress at such intervals as directed by the Contracting Officer, and shall immediately deliver to the Contracting Officer three copies thereof. If the Contractor fails to submit a progress schedule within the time herein prescribed, the Contracting Officer may withhold approval of progress payment estimates until such time as the Contractor submits the required progress schedule.

(b) If, in the opinion of the Contracting Officer, the Contractor falls behind the progress schedule, the Contractor shall take such steps as may be necessary to improve his progress and the Contracting Officer may require him to increase the number of shifts, or overtime operations, days of work, or the amount of construction plant, or all of them, and to submit for approval such supplementary schedule or schedules in chart form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Government.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this provision shall be grounds for determination by the Contract-

ing Officer that the Contractor is not prosecuting the work with such diligence as will insure completion within the time specified. Upon such determination the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with the clause of the contract entitled "Termination for Default-Damages for Delay-Time Extensions." (ASPR 7-602. 36)

36. SUBCONTRACTORS (Oct 1966)

Within 7 days after the award of any subcontract either by himself or a subcontractor, the Contractor shall deliver to the Contracting Officer a statement setting forth the name and address of the subcontractor and a summary description of the work subcontracted. The Contractor shall at the same time furnish a statement signed by the subcontractor acknowledging the inclusion in his subcontract of the clauses of this contract entitled "Equal Opportunity", "Davis-Bacon Act", "Contract Work Hours Standards Act-Overtime Compensation", "Apprentices", "Payrolls and Basic Records", "Compliance with Copeland Regulations", "Withholding of Funds", "Subcontracts" and "Contract Termination-Debarment". Nothing contained in this contract shall create any contractual relation between the subcontractor and the Government.
(ASPR 7-602. 37)

37. USE AND POSSESSION PRIOR TO COMPLETION (Jan 1965)

The Government shall have the right to take possession of or use any completed or partially completed part of the work. Such possession or use shall not be deemed an acceptance of any work not completed in accordance with the contract. While the Government is in such possession, the Contractor, notwithstanding the provisions of the clause of this contract entitled "Permits and Responsibilities," shall be relieved of the responsibility for loss or damage to the work other than that resulting from the Contractor's fault or negligence. If such prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment in the contract price or the time of completion will be made and the contract shall be modified in writing accordingly. (ASPR 7-602. 39)

38. CLEANING UP (Jan 1965)

The Contractor shall at all times keep the construction area, including storage areas used by him, free from accumulations of waste material or rubbish and prior to completion of the work remove any rubbish from the premises and all tools, scaffolding, equipment, and materials not the property of the Government. Upon completion of the construction the Contractor shall leave the work and premises in a clean, neat and workmanlike condition satisfactory to the Contracting Officer. (ASPR 7-602. 40)

39. ADDITIONAL DEFINITIONS (Jan 1965)

(a) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory" or words of like import shall mean "approved by" or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(b) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provided complete in place", that is "furnished and installed". (ASPR 7-602. 41)

40. ACCIDENT PREVENTION (Jan 1965)

(a) In order to provide safety controls for protection to the life and health of employees and other persons; for prevention of damage to property, materials, supplies, and equipment; and for avoidance of work interruptions in the performance of this contract, the Contractor shall comply with all pertinent provisions of Corps of Engineers Manual, EM 385-1-1, dated 13 March 1958, entitled "General Safety Requirements", as amended, and will also take or cause to be taken such additional measures as the Contracting Officer may determine to be reasonably necessary for the purpose.

(b) The Contractor will maintain an accurate record of, and will report to the Contracting Officer in the manner and on the forms prescribed by the Contracting Officer, exposure data and all accidents resulting in death, traumatic injury, occupational disease, and damage to property, materials, supplies and equipment incident to work performed under this contract.

(c) The Contracting Officer will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

(d) Compliance with the provisions of this article by subcontractors will be the responsibility of the Contractor.

(e) Prior to commencement of the work the Contractor will:

(1) submit in writing his proposals for effectuating this provision for accident prevention;

(2) meet in conference with representatives of the Contracting Officer to discuss and develop mutual understandings relative to administration of the over-all safety program. (ASPR 7-602. 42 (a) and (b))

41. GOVERNMENT INSPECTORS (Jan 1965)

The work will be conducted under the general direction of the Contracting Officer and is subject to inspection by his appointed inspectors to insure strict compliance with the terms of the contract. No inspector is authorized to change any provision of the specifications without written authorization of the Contracting Officer, nor shall the presence or absence of an inspector relieve the Contractor from any requirements of the contract. (ASPR 7-602. 43)

42. PRICE ADJUSTMENT FOR SUSPENSION, DELAYS, OR INTERRUPTION OF WORK (Nov 1961)

(a) The Contracting Officer may order the Contractor in writing to suspend all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the Government.

(b) If, without the fault or negligence of the Contractor, the performance of all or any part of the work is for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Contracting Officer in the administration of the contract, or by his failure to act within the time specified in the contract (or if no time is specified within a reasonable time), an adjustment shall be made by the Contracting Officer for any increase in the cost of performance of the contract (excluding profit) necessarily caused by the unreasonable period of such suspension, delay, or interruption, and the contract shall be modified in writing accordingly. No adjustment shall be made to the extent that performance by the Contractor would have been prevented by other causes even if the work had not been so suspended, delayed, or interrupted. No

claim under this clause shall be allowed (i) for any costs incurred more than twenty days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply where a suspension order has been issued), and (ii) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption but not later than the date of final payment under the contract. Any dispute concerning a question of fact arising under this clause shall be subject to the Disputes clause. (ASPR 7-602.46)

43. EXAMINATION OF RECORDS (Feb 1962)

(The following clause is applicable, if this contract was entered into by means of negotiation, (including Small Business Restricted Advertising) but is not applicable if this contract was entered into by means of formal advertising.)

(a) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this contract, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor, involving transactions related to this contract.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in the clause excludes (i) purchase orders not exceeding $2,500 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.
(ASPR 7-104.15)

44. PRIORITIES, ALLOCATIONS, AND ALLOTMENTS
(Jan 1961)

(Applicable to rateable contracts)

The Contractor shall follow the provisions of DMS Reg. 1 and all other applicable regulations and orders of the Business and Defense Services Administration in obtaining controlled materials and other products and materials needed to fill this order. (ASPR 7-104.18)

45. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--PRICE ADJUSTMENTS
(Mar 1963)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, except where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation. The right to price reduction under this clause shall be limited to such price adjustments.

(b) If the Contracting Officer determines that any price, including profit, or fee, negotiated in connection with any price adjustment under this contract was increased by any significant sums because the Contractor or any subcontractor in connection with a subcontract covered by paragraph (d) below, furnished incomplete or inaccurate cost or pricing data or data not current as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data, then such price shall be reduced accordingly and the contract shall be modified in writing to reflect such adjustment.

(c) Failure to agree on a reduction shall be a dispute concerning a question of fact within the meaning of the "Disputes" clause of this contract.

(d) The Contractor agrees to insert the substance of paragraphs (a), (b), and (d) of this clause in each subcontract hereunder that exceeds $100,000.
(ASPR 7-104.29 (b))

46. INTEREST (May 1963)

Notwithstanding any other provisions of this contract, unless paid within 30 days all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code) shall bear interest at the rate of six percent per annum from the date due until paid and shall be subject to adjustments as provided by Part 6 of Appendix E of the Armed Services Procurement Regulation, as in effect on the date of this contract. Amounts shall be due upon the earliest one of (i) the date fixed pursuant to this contract, (ii) the date of the first written demand for payment, consistent with this contract, (iii) the date of transmittal by the Government to the Contractor of a proposed supplemental agreement to confirm completed negotiations fixing the amount, or (iv) if this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or in connection with a negotiated pricing agreement not confirmed by contract supplement.
(ASPR, Appendix E-620)

47. AUDIT-PRICE ADJUSTMENTS (Sep 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000, unless the price adjustment is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(b) For purposes of verifying that cost or pricing data submitted in conjunction with a contract change or other modification involving an amount in excess of $100,000 are accurate, complete, and current, the Contracting Officer, the Comptroller General of the United States, or any authorized representatives, shall--until the expiration of three years from the date of final payment under this contract--have the right to examine those books, records, documents and other supporting data which will permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein, which were available to the Contractor as of the date of execution of the Contractor's Certificate of Current Cost or Pricing Data.

(c) The Contractor agrees to insert the substance of this clause in all subcontracts hereunder in excess of $100,000 so as to apply until three years after final payment under the subcontract and only when the change or other modification to the subcontract results from a change or other modification to the Government prime contract.

(The phrase "the Comptroller General of the United States," appearing in paragraph (b) of this provision, is not applicable to negotiated contracts including contracts awarded under a total (Small Business Restricted Advertising) set-aside.) (ASPR 7-104.41 (b))

48. SUBCONTRACTOR COST AND PRICING DATA--PRICE ADJUSTMENTS (May 1963)

(Applicable to all contracts in excess of $100,000)

(a) Paragraphs (b) and (c) of this clause shall become operative only with respect to any change or other modification made pursuant to one or more provisions of this contract which involves a price adjustment in excess of $100,000. The requirements of this clause shall be limited

to such price adjustments.

(b) The Contractor shall require subcontractors hereunder to submit cost or pricing data under the following circumstances: (i) prior to award of any cost-reimbursement type, incentive, or price redeterminable subcontract; (ii) prior to the award of any subcontract the price of which is expected to exceed $100,000; (iii) prior to the pricing of any subcontract change or other modification for which the price adjustment is expected to exceed $100,000; except in the case of (ii) or (iii) where the price is based on adequate price competition, established catalog or market prices of commercial items sold in substantial quantities to the general public, or prices set by law or regulation.

(c) The Contractor shall require subcontractors to certify that to the best of their knowledge and belief the cost and pricing data submitted under (b) above is accurate, complete, and current as of the date of execution, which date shall be as close as possible to the date of agreement on the negotiated price of the contract modification.

(d) The Contractor shall insert the substance of this clause including this paragraph (d) in each subcontract hereunder which exceeds $100,000. (ASPR 7-104.42 (b))

49. DISPUTES CONCERNING LABOR STANDARDS (Jan 1965)

Disputes arising out of the labor standards provisions of this contract shall be subject to the Disputes clause except to the extent such disputes involve the meaning of classifications or wage rates contained in the wage determination decision of the Secretary of Labor or the applicability of the labor provisions of the contract which questions shall be referred to the Secretary of Labor in accordance with the procedures of the Department of Labor. (ASPR 7-603.26)

50. VALUE ENGINEERING INCENTIVE (Oct 1964)

(Applicable to all contracts in excess of $100,000)

(a) This clause applies to cost reduction proposals initiated and developed by the Contractor for changing the drawings, designs, specifications, or other requirements of this contract. This clause does not, however, apply to any such proposal unless it is identified by the Contractor, at the time of its submission to the Contracting Officer, as a proposal submitted pursuant to this clause. The cost reduction proposals contemplated are those that:

(i) would require, in order to be applied to this contract, a change order to this contract; and

(ii) would result in savings to the Government by providing less costly items than those specified herein without impairing any of their essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features.

(b) Cost reduction proposals, as defined herein, shall be processed expeditiously and in the same manner as prescribed for any proposal which would necessitate issuance of a contract change order. As a minimum, the following information shall be submitted by the Contractor with each proposal:

(i) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each;

(ii) an itemization of the requirements of the contract which must be changed if the proposal is adopted and a recommendation as how to make each such change (e.g., suggested revision);

(iii) an estimate of the reduction in performance costs, if any, that will result from adoption of the proposal, taking into account the costs of implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (e) below) and the basis for the estimate;

(iv) a prediction of any effects the proposed change would have on other costs to the Government, such as Government-furnished property costs, costs of related items, and costs of maintenance and operation.

(v) a statement of the time by which a change order adopting the proposal must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract delivery schedule; and

(vi) the dates of any previous submissions of the proposal, the numbers of any Government contracts under which submitted, and the previous actions by the Government, if known.

(c) The Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. The decision of the Contracting Officer as to the acceptance of any such proposal under this contract shall be final and shall not be subject to the "Disputes" clause of this contract. The Contracting Officer may accept, in whole or in part, any cost reduction proposal submitted pursuant to this clause either by issuing a change order to this contract or, if performance has been completed under this contract, by giving written notice of acceptance within a reasonable time thereafter to the Contractor. Unless and until a change order applies a proposal to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. If a proposal is accepted after performance under this contract has been completed, the adjustment required shall be effected by contract modification in accordance with this clause. The adjustment made pursuant to this clause shall be the cumulative total of each adjustment authorized in this clause, rather than a selection of alternatives.

(d) If a cost reduction proposal submitted pursuant to this clause is accepted and applied to this contract, an equitable adjustment in the contract price and in any other affected provisions of this contract shall be made in accordance with this clause and the "Changes" clause of this contract. The equitable adjustment shall be established by determining the effect on the Contractor's cost of performance, taking into account the Contractor's cost of implementing the change (including any amount attributable to subcontracts in accordance with paragraph (e) below). When the cost of performance of this contract is reduced as a result of the change, the contract price shall be reduced by the total estimated decrease in the cost of performance minus fifty per cent (50%) of the difference between the amount of such total estimated decrease and any ascertainable collateral costs to the Government which must reasonably be incurred as a result of application of the cost reduction proposal to the contract. When the cost of implementing the change precludes a reduction in the cost of performing this contract, the equitable adjustment increasing the contract price shall be in accordance with the "Changes" clause rather than under this clause.

(e) The Contractor will use his best efforts to include appropriate value engineering arrangements in any subcontract which, in the judgement of the Contractor, is of such a size and nature as to offer reasonable likelihood of value engineering cost reductions. For the purpose of computing any equitable adjustment in the contract price under paragraph (d) above, the Contractor's cost of implementation of a cost reduction proposal which is accepted under this contract shall be deemed to include any implementation costs of a subcontractor and any value engineering incentive payments to a subcontractor, or cost reduction shares accruing to a subcontractor, which clearly pertain to such proposal and which are incurred, paid or accrued in the performance of a subcontract under this contract.

(f) Cost reduction proposals submitted under the provisions of any other contract also may be submitted for consideration under this contract. Notwithstanding any other provision of this clause, where a cost reduction

proposal has been accepted by the Government, prior to its acceptance under this contract, under any other contract with the Contractor for substantially the same items as called for by this contract, the total amount of the equitable adjustment under this contract shall be limited to that provided for in paragraph (d) of this clause.

(g) The Contractor may restrict the Government's right to use any sheet of a value engineering proposal or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet.

> This data furnished pursuant to the Value Engineering Incentive clause of contract ____________ shall not be disclosed outside the Government, or be duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering proposal submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained from another source, or is otherwise available, without limitations. If such a proposal is accepted by the Government under said contract after the use of this data in such an evaluation, the Government shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such proposal as accepted, in any manner and for any purpose whatsoever, and have others so do.

In the event of acceptance of a value engineering proposal, the Contractor hereby grants to the Government all rights to use, duplicate or disclose, in whole or part, in any manner and for any purpose whatsoever, and to have or permit others to do so, any data reasonably necessary to fully utilize such proposal.

(h) Contract modifications made as a result of this clause will state that they are made pursuant to it.
(ASPR 1-1707.2 (a))

• 51. RIGHTS IN SHOP DRAWINGS (APR. 1966)

(Applicable to all contracts calling for the delivery of shop drawings)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.
(ASPR 18-910.1 (b))

52. GOVERNMENT PROPERTY (FIXED PRICE)
(Jun 1965)

(a) Government-Furnished Property. The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay, in accordance with the procedures provided for in the clause of this contract entitled "Changes." Except for Government-furnished property furnished "as is", in the event the Government-furnished property is received by the Contractor in a condition not suitable for the intended use the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (i) return such property at the Government's expense or otherwise dispose of the property, or (ii) effect repairs or modifications. Upon the completion of (i) or (ii) above, the Contracting Officer upon written request of the Contractor shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by the rejection or disposition, or the repair or modification, in accordance with the procedures provided for in the clause of this contract entitled "Changes." The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b) Changes in Government-furnished Property.

(1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1) above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution, or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

(c) Title. Title to all property furnished by the Government shall remain in the Government. In order to define the obligations of the parties under this clause, title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor for the Government pursuant to this contract shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property". Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(d) Property Administration. The Contractor shall comply with the provisions of the "Manual for Control of Government Property in Possession of Contractors" (Appendix B, Armed Services Procurement Regulation) as in

effect on the date of the contract, which Manual is hereby incorporated by reference and made a part of this contract. Material to be furnished by the Government shall be ordered or returned by the Contractor, when required, in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation) as in effect on the date of this contract, which Manual is hereby incorporated by reference and made a part of this contract.

(e) Use of Government Property. The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) Maintenance and Repair of Government Property. The Contractor shall maintain and administer, in accordance with sound industrial practice, a program for the maintenance, repair, protection, and preservation of Government property, until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs; provided, however, that if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Risk of Loss. Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss of or damage to Government property provided under this contract upon its delivery to him or upon passage of title thereto to the Government as provided in paragraph (c) hereof, except for reasonable wear and tear and except to the extent that such property is consumed in the performance of this contract.

(h) Access. The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Final Accounting and Disposition of Government Property. Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government, and shall prepare for shipment, deliver f.o.b. origin, or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid in such other manner as the Contracting Officer may direct.

(j) Restoration of Contractor's Premises. Unless otherwise provided herein, the Government:

(i) may abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(ii) shall not be under any duty or obligation to restore or rehabilitate, or to pay the costs of the restoration or rehabilitation of, the Contractor's plant or any portion thereof which is affected by the abandonment or removal of any Government property.

(k) Communications. All communications issued pursuant to this clause shall be in writing or in accordance with the "Manual for Military Standard Requisitioning and Issue Procedure (MILSTRIP) for Defense Contractors" (Appendix H, Armed Services Procurement Regulation).

(l) Notwithstanding the provisions of (d) above, the Government will maintain the official control records for Government Property provided pursuant to this clause and the Contractor is not required to maintain property control records for such property in accordance with the requirements of the "Manual for Control of Government Property in Possession of Contractors." (ASPR 13-702 (a) and APP 13-1708 (b))

STANDARD FORM 19–A
APRIL 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FPR (41 CFR) 1-16.401

LABOR STANDARDS PROVISIONS

APPLICABLE TO CONTRACTS IN EXCESS OF $2,000

1. DAVIS-BACON ACT (40 U.S.C. 276a–a(7))

(a) All mechanics and laborers employed or working directly upon the site of the work shall be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Copeland Regulations (29 CFR, Part 3)), the full amounts due at time of payment computed at wage rates not less than the aggregate of the basic hourly rates and the rates of payments, contributions, or costs for any fringe benefits contained in the wage determination decision of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor or subcontractor and such laborers and mechanics. A copy of such wage determination decision shall be kept posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers.

(b) The Contractor may discharge his obligation under this clause to workers in any classification for which the wage determination decision contains:

(1) Only a basic hourly rate of pay, by making payment at not less than such basic hourly rate, except as otherwise provided in the Copeland Regulations (29 CFR, Part 3); or

(2) Both a basic hourly rate of pay and fringe benefits payments, by making payment in cash, by irrevocably making contributions pursuant to a fund, plan, or program for, and/or by assuming an enforceable commitment to bear the cost of, bona fide fringe benefits contemplated by the Davis-Bacon Act, or by any combination thereof. Contributions made, or costs assumed, on other than a weekly basis shall be considered as having been constructively made or assumed during a weekly period to the extent that they apply to such period. Where a fringe benefit is expressed in a wage determination in any manner other than as an hourly rate and the Contractor pays a cash equivalent or provides an alternative fringe benefit, he shall furnish information with his payrolls showing how he determined that the cost incurred to make the cash payment or to provide the alternative fringe benefit is equal to the cost of the wage determination fringe benefit. In any case where the Contractor provides a fringe benefit different from any contained in the wage determination, he shall similarly show how he arrived at the hourly rate shown therefor. In the event of disagreement between or among the interested parties as to an equivalent of any fringe benefit, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(c) The assumption of an enforceable commitment to bear the cost of fringe benefits, or the provision of any fringe benefits not expressly listed in section 1(b)(2) of the Davis-Bacon Act or in the wage determination decision forming a part of the contract, may be considered as payment of wages only with the approval of the Secretary of Labor pursuant to a written request by the Contractor. The Secretary of Labor may require the Contractor to set aside assets, in a separate account, to meet his obligations under any unfunded plan or program.

(d) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination decision and which is to be employed under the contract shall be classified or reclassified conformably to the wage determination decision, and shall report the action taken to the Secretary of Labor. If the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers or mechanics to be used, the Contracting Officer shall submit the question, together with his recommendation, to the Secretary of Labor for final determination.

(e) In the event it is found by the Contracting Officer that any laborer or mechanic employed by the Contractor or any subcontractor directly on the site of the work covered by this contract has been or is being paid at a rate of wages less than the rate of wages required by paragraph (a) of this clause, the Contracting Officer may (1) by written notice to the Government Prime Contractor terminate his right to proceed with the work, or such part of the work as to which there has been a failure to pay said required wages, and (2) prosecute the work to completion by contract or otherwise, whereupon such Contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

(f) Paragraphs (a) through (e) of the clause shall apply to this contract to the extent that it is (1) a prime contract with the Government subject to the Davis-Bacon Act or (2) a subcontract also subject to the Davis-Bacon Act under such prime contract.

2. CONTRACT WORK HOURS STANDARDS ACT—OVERTIME COMPENSATION (40 U.S.C. 327–330)

(a) The Contractor shall not require or permit any laborer or mechanic in any workweek in which he is employed on any work under this contract to work in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek on work subject to the provisions of the Contract Work Hours Standards Act unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of 8 hours in any calendar day or in excess of 40 hours in such workweek, whichever is the greater number of overtime hours. The "basic rate of pay," as used in this clause, shall be the amount paid per hour, exclusive of the Contractor's contribution or cost for fringe benefits and any cash payment made in lieu of providing fringe benefits, or the basic hourly rate contained in the wage determination, whichever is greater.

(b) In the event of any violation of the provisions of paragraph (a), the Contractor shall be liable to any affected employee for any amounts due, and to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of the provisions of paragraph (a) in the sum of $10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of 8 hours or in excess of the standard workweek of 40 hours without payment of the overtime wages required by paragraph (a).

3. APPRENTICES

(a) Apprentices shall be permitted to work as such only when they are registered, individually, under a bona fide apprenticeship program registered with a State apprenticeship agency which is recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor; or, if no such recognized agency exists in a State, under a program registered with the aforesaid Bureau of Apprenticeship and Training. The allowable ratio of apprentices to journeymen in any craft classification shall be not greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the Secretary of Labor for the classification of work he actually performed.

(b) The Contractor shall furnish written evidence of the registration of his program and apprentices as well as of the ratios allowed and the wage rates required to be paid thereunder for the area of construction, prior to using any apprentices in the contract work.

4. PAYROLLS AND BASIC RECORDS

(a) The Contractor shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name and address of each such employee, his correct classification, rate of pay (including rates of contributions for, or costs assumed to provide, fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Contractor has obtained approval from the Secretary of Labor as provided in paragraph (c) of the clause entitled "Davis-Bacon Act," he shall maintain records which show the commitment, its approval, written communication of the plan or program to the laborers or mechanics affected, and the costs anticipated or incurred under the plan or program.

(b) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The Government Prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The copy shall be accompanied by a statement signed by the Contractor indicating that the payrolls are correct and complete, that the wage rates contained therein are not less than those determined by the Secretary of Labor, and that the classifications set forth for each laborer or mechanic conform with the work he performed. Submission of the "Weekly Statement of Compliance" required under this contract and the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) shall satisfy the requirement for submission of the above statement. The Contractor shall submit also a copy of any approval by the Secretary of Labor with respect to fringe benefits which is required by paragraph (c) of the clause entitled "Davis-Bacon Act."

(c) The Contractor shall make the records required under this clause available for inspection by authorized representatives of the Contracting Officer and the Department of Labor, and shall permit such representatives to interview employees during working hours on the job.

5. COMPLIANCE WITH COPELAND REGULATIONS

The Contractor shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR, Part 3) which are incorporated herein by reference.

6. WITHHOLDING OF FUNDS

(a) The Contracting Officer may withhold or cause to be withheld from the Government Prime Contractor so much of the accrued payments or advances as may be considered necessary (1) to pay laborers and mechanics employed by the Contractor or any subcontractor on the work the full amount of wages required by the contract, and (2) to satisfy any liability of any Contractor for liquidated damages under the clause hereof entitled "Contract Work Hours Standards Act—Overtime Compensation."

(b) If any Contractor fails to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Government Prime Contractor, take such action as may be necessary to cause suspension of any further payments or advances until such violations have ceased.

7. SUBCONTRACTS

The Contractor agrees to insert the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," "Subcontracts," and "Contract Termination—Debarment" in all subcontracts. The term "Contractor" as used in such clauses in any subcontract shall be deemed to refer to the subcontractor except in the phrase "Government Prime Contractor."

8. CONTRACT TERMINATION—DEBARMENT

A breach of the clauses hereof entitled "Davis-Bacon Act," "Contract Work Hours Standards Act—Overtime Compensation," "Apprentices," "Payrolls and Basic Records," "Compliance With Copeland Regulations," "Withholding of Funds," and "Subcontracts" may be grounds for termination of the contract, and for debarment as provided in 29 CFR 5.6.

U.S. GOVERNMENT PRINTING OFFICE : 1965 O - 784-[illegible]

SOL-123
(7-64)

U.S. DEPARTMENT OF LABOR
OFFICE OF THE SECRETARY
WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and based on information available to the Department of Labor the wage rates and fringe payments listed are hereby determined by the Secretary of Labor as prevailing for the described classes of labor in accordance with applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates and fringe payments contained in this decision, including modifications, shall be the minimums to be paid under any such contract by contractors and subcontractors on the work.

The contracting officer shall require that any class of laborers and mechanics which is not listed in the wage determination and which is to be employed under the contract, shall be classified or reclassified conformably to the wage determination, and a report of the action taken shall be sent by the Federal agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of a particular class of laborers and mechanics to be used, the question accompanied by the recommendation of the contracting officer shall be referred to the Secretary for determination.

Before using apprentices on the job the contractor shall present to the contracting officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U.S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U.S. Bureau of Apprenticeship and Training.

The contractor shall submit to the contracting officer written evidence of the established apprentice-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

Fringe payments include medical and hospital care, compensation for injuries or illness resulting from occupational activity, unemployment benefits, life insurance, disability and sickness insurance, accident insurance (all designated as health and welfare), pensions, vacation and holiday pay, apprenticeship or other similar programs and other bona fide fringe benefits.

By direction of the Secretary of Labor,

Charles Donahue
Solicitor of Labor.

GPO : 1964—O-730-498

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD
Chapter 21-5A Series VI
1967

Definitions have been adopted as follows:

(1) Highway Construction:

Highway Construction work is defined as all work ordinarily included in highway construction projects. It includes highway tunnels and bridges, bridge approaches, highway street grading, paving and draining, culverts, manholes, water and other utility pipelines (when included in the contract), sidewalks (when included in the contract), retaining walls, underpasses and overpasses (when included in a highway contract), highway viaducts, clover-leaf structures, curb and sidewalks, fences, and including the erection, dismantling, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with, or serving the aforementioned work.

(2) Heavy Construction:

Heavy Construction and Railroad Construction is defined as construction, substantially in its entirety, and fixed structures, improvement or modification thereof, addition or repair thereto, including any structure or operation which is an incidental part of a contract thereof (not including building or highway construction), including, without limitation, railroad and street railway construction projects, sewers and water mains, retaining walls, viaducts, drainage projects, flood control projects, reclamation projects, airports, athletic fields, reservoirs, water supply projects, water power developments, hydro-electric developments, transmission lines, duct lines, pipelines, locks, dams, dikes, levees, revetments, channels, channel cut-offs, intakes, dredging projects, jetties, breakwaters, docks, harbors, industrial plant sites, excavation and disposal of earth and rock, including the assembly, operation, maintenance and repair of all equipment, vehicles and other facilities used in connection with and serving the aforementioned works and services.

(3) Building Construction:

Building Trades rates and conditions shall apply to any building which may be required in the construction, renovation or demolition, of any of the work included where such buildings are customarily constructed under Building Trades Conditions.

WEST VIRGINIA DEPARTMENT OF LABOR

Lawrence Barker, Commissioner

MINIMUM WAGE RATE BOARD

Chapter 21-5A Series VI
1967

COVERAGE OF SPECIFIC CLASSES OF WORK IS DEFINED AS FOLLOWS:

A. As an item of construction:

(1) Preliminary Survey Work: Since this work merely affects construction without being a part of it, such work is not generally covered.

(2) Survey Work immediately prior to and during actual Construction: Where surveying is performed immediately prior to and during actual construction, in direct support of construction crews, such surveying is construction work within the meaning of the Prevailing Wage Law.

B. Exploratory Drilling:

(1) Where the drilling was for the purpose of obtaining core borings to be used in engineering studies and planning, the word "works" refers to improvements, such as buildings, canals or roads, rather than to refer to progress or activity. Consequently, mere digging would not appear to be within the term, because it relates to an activity as distinguished from a product or improvement.

(2) Where the soil samples are taken prior to or during construction for the construction contractor, for the purpose of setting foundations, the Commissioner of Labor has held that contracts for such work are considered covered by the Prevailing Wage Law if they may be fairly characterized as being directly related and incidental to, or an integral part of, the actual construction process.

C. Incidental Crafts:

(1) Watchman: Watchmen, where their work is nonmanual in nature, of where they are acting purely in administrative capacities are not "laborers and mechanics" within the contemplation of the Prevailing Wage Law. However, the mere fact that an employee is called a guard, watchman or security policemen does not necessarily mean he is not a laborer. If he actually performs physical or manual work in addition to or in connection with his guarding activities, it may well be that he should properly be classified as a laborer or mechanic for such hours during which he performs laborer's or mechanic's duties. For example, where the duties of a watchman require him to wet down concrete walls and unload materials, the watchman is considered a laborer since performing these acts is a laborer's work.

(2) Flagman: Flagmen who perform no manual labor are not subject to the Prevailing Wage provisions. When flagmen perform in a dual capacity, directing traffic and performing manual jobs, they are covered. Under these circumstances, it will not be necessary to establish an additional classification for flagmen so long as they are classified as laborers and paid the laborer rate. If they perform journeyman's duties, they must be classified and paid the journeyman's rate.

WEST VIRGINIA DEPARTMENT OF LABOR

COUNTY GROUPING FOR LABOR RATES

"A" COUNTIES

BROOKE
CABELL
HANCOCK
HARRISON
JACKSON
KANAWHA
LEWIS
MARION
MARSHALL
MASON
MONONGALIA
OHIO
PLEASANTS
PRESTON
PUTNAM
TYLER
WAYNE
WETZEL
WOOD

"B" COUNTIES

BERKELEY
FAYETTE
LOGAN
MCDOWELL
MERCER
MINGO
RALEIGH
TAYLOR
WYOMING

"C" COUNTIES

BARBOUR
BOONE
BRAXTON
CALHOUN
CLAY
DODDRIDGE
GILMER
GRANT
GREENBRIER
HAMPSHIRE
HARDY
JEFFERSON
LINCOLN
MINERAL
MONROE
MORGAN
NICHOLAS
PENDLETON
POCAHONTAS
RANDOLPH
RITCHIE
ROANE
SUMMERS
TUCKER
UPSHUR
WEBSTER
WIRT

WHD 67

WEST VIRGINIA DEPARTMENT OF LABOR

BUILDING CONSTRUCTION RATES

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Asbestos Workers	5.365	.19	.26	.37 deduc.	.01	
Boilermakers	4.95	.20	.20		.01	
Boilermaker Helpers	4.70	.20	.20		.01	
Bricklayers	4.65					
Carpenters	4.33	.10	.15		.02	
Cement Masons	3.85					
Electricians	4.50	.15	1 % GPR		1/10 of1% GPR	
Elevator Constructors	4.70	7.5	12.5			
Elevator Const. Helpers	3.29	7.5	12.5			
Glaziers	3.25					
Ironworkers:						
Structural	4.95	.20	.15		.01	
Ornamental	4.95	.20	.15		.01	
Reinforcing	4.95	.20	.15		.01	
Laborers:						
General Laborer Foreman	3.90	.10	.10			
Blacksmith	3.65	.10	.10			
Composite Crew (Stacks)	3.55	.10	.10			
Burner	3.40	.10	.10			
Powderman	3.40	.10	.10			
Laborer Foreman	3.40	.10	.10			
Semi-Skilled Laborer:						
Brick Mason Tenders	3.05	.10	.10			
Plasterer Tenders	3.05	.10	.10			
Cement Finisher Tenders	3.05	.10	.10			
Stone Mason Tenders	3.05	.10	.10			
Lathers Tenders	3.05	.10	.10			
Tile Setter Tenders	3.05	.10	.10			
Mortar Mixers	3.05	.10	.10			
Jackhammer Operators	3.05	.10	.10			
Vibrator Operators	3.05	.10	.10			
Tamper Operators	3.05	.10	.10			
Pavement Buster Operators	3.05	.10	.10			
Chipping & Peening Hammer Ops	3.05	.10	.10			
Air Siphon & Air Pump Ops	3.05	.10	.10			
Riprap Finishers	3.05	.10	.10			
Concrete Saw Operators	3.05	.10	.10			
Power Saw Operators	3.05	.10	.10			
Chain Saw Operators	3.05	.10	.10			
Motorized Buggy Operators	3.05	.10	.10			
Pipe Layers	3.05	.10	.10			
Pipe Layer Helpers	3.05	.10	.10			
Drill Operators	3.05	.10	.10			
Drill Operator Helpers	3.05	.10	.10			
Sheeter and Shorers	3.05	.10	.10			
Post Hole Digger Operators	3.05	.10	.10			
Asphalt Rakers	3.05	.10	.10			
Lance Operators	3.05	.10	.10			
Blacksmith Helpers	3.05	.10	.10			
Batch House Scale Operators	3.05	.10	.10			
Workmen Working with Acid	3.05	.10	.10			
Workmen Working with Acid Mortar.	3.05	.10	.10			
Workmen Working with Acid Brick.	3.05	.10	.10			
Workmen Working with Creosote	3.05	.10	.10			

Continued on Page Two

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Workmen Working with Mastic Asphalt	3.05	.10	10			
Nozzelmen for Gunnite or Sandblasting	3.05	.10	.10			
Tool Room Attendants	3.05	.10	.10			
Ride or Walk Roller Tampers	3.05	.10	.10			
Common Laborer:						
Common Laborer	2.90	.10	10			
Flagman	2.90	.10	.10			
Signal Men	2.90	.10	.10			
Water Boys	2.90	.10	.10			
Demolition Workers	2.90	.10	.10			
Lathers	4.50				.01	
Lead Burners	5.10	.15			.01	
Marble Setters	4.65					
Marble Setter Helpers	3.325					
Millwrights	4.83	.10	15			
Painters:						
Brush:						
Residential	2.75					
Commercial	3.25					
Industrial	3.75					
Structural Steel & Pipe	3.75					
Spray:						
Industrial	4.50					
Commercial	4.50					
Sandblasters	4.50					
Towers	4.50					
Smokestacks	4.50					
Tanks	4.50					
Bridge:						
Brush	4.00					
Spray	4.50					
Sandblast	4.50					
Flagpoles	4.50					
Swing, Chair & Window Jacks/More Per Hr.	.25					
Dry Wall Taper	3.25					
Sign Painter	3.25					
Sign Painter Helper	2.10					
Piledrivers	4.58	.10	.15		.02	
Plasterers	4.00					
Plumbers	4.30	.10	.15	.10	.02	
Roofers:						
Composition	4.25					
Slate & Tile	4.25					
Sheet Metal Workers	4.40				.01	
Soft Floor Layers	4.33	.10	.15		.02	
Sprinkler Fitters	4.525	.11	.10			
Steam Fitters	4.55	.10	.15	.10	.03	
Stone Masons	4.65					
Terrazzo Workers	4.65					
Terrazzo Worker Helpers	3.325					
Tile Setters	4.65					
Tile Setter Helpers	3.325					

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Continued on Page Three

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Operating Engineers:						
All cranes, shovels, draglines, clamshell, derricks, & similar equipment 4 C/Y capacity or more or having 175 feet or more boom, and tower cranes...............	4.49	.10	.20		.02	
All types shovel, crane and backhoe operator, Material Hoist (2 or 3 drum), Derrick (all types), Mechanic, Grade-All, Wellpoint System, Concrete Mixing Plant Opr., Tug or Towboat Opr., Elevator, and Core Drill Opr..	4.24	.10	.20		.02	
Side Boom Car, High Lift & Fork Lift...........................	4.165	.10	.20		.02	
Trench Excavator & Concrete Pump Opr. (double)..................	4.065	.10	.20		.02	
High Compression Equipment........	4.065	.10	.20		.02	
Standard Locomotive..............	3.965	.10	.20		.02	
Air Tugger & Concrete Mixer (2 bag)..........................	3.915	.10	.20		.02	
Material Hoist (1 drum), Brick Tote Machine, Concrete Pump Opr. (single), A Frame Truck, Ross Carrier, Rubber Tired Scrappers, & Power Grader..................	3.865	.10	.20		.02	
Bull Dozer, Oiler-Stand., Gauge Locomotive & Locomotive Crane, Tractor & Pan Scrapper, Push Cat & Grease Truck Operator.........	3.765	.10	.20		.02	
Wellpoint System Installer........	3.715	.10	.20		.02	
All Tractors......................	3.665	.10	.20		.02	
Fireman..........................	3.465	.10	.20		.02	
Road Roller & Concrete Mixes (1 bag)...........................	3.315	.10	.20		.02	
Barber Greene Loader, Oiler, & Deck Hand.......................	3.265	.10	.20		.02	
Mechanic Helper..................	3.165	.10	.20		.02	
Air Compressor Opr., Electric Welding Machine (gasoline powered)..	2.915	.10	.20		.02	
Air Compressor (600 or over)......	4.165	.10	.20		.02	
Light Plant & Generator...........	2.915	.10	.20		.02	
Conveyor.........................	2.865	.10	.20		.02	
Mechanical Heater & Pump Operator.	2.765	.10	.20		.02	
Truck Drivers:						
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up...............	3.25	.10	17.33 per mo.			
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yds), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen & Mech. Helpers (truck).	3.35	.10	17.33 per mo.			

Continued on Page Four

WEST VIRGINIA DEPARTMENT OF LABOR
BUILDING CONSTRUCTION RATES (Cont'd)

1967 Minimum Wages in HARRISON County shall be as follows:

Classification	Basic Hourly Rates	Fringe Benefits Payments				
		H & W	Pensions	Vacation	App. TR.	Others
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yds.), Dump Trucks and Dumpsters (5 yds. to 12 yds.)....	3.55	.10	17.33 per mo.			
Agitators or Mixer Trucks (over 5 yards)........................	3.65	.10	17.33 per mo.			
Rubber-Tired Tractors (towing or pushing)........................	3.65	.10	17.33 per mo.			
Dump Trucks and Other Hauling Equipment (12 yds. to 20 yds.), Mucker Trucker........................	3.65	.10	17.33 per mo.			
Dump Trucks and Other Hauling Equipment (20 yds. and over)..........	4.03	.10	17.33 per mo.			
"A" Frame Operator.................	4.03	.10	17.33 per mo.			
Mechanics (truck), Foremen and/or Dispatchers.....................	3.65	.10	17.33 per mo.			

NOTE: Double Hitched Equipment operated by one driver shall pay 50% more than the wages set out above.

APPRENTICE SCHEDULE
PERIOD AND RATE

The apprentice rate is by percentage of the Journeyman's rate unless otherwise indicated.

CRAFT	INTERVAL	1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
ASBESTOS WORKERS	Yearly										
BRICKLAYERS	6 Months	50	60	65	70	75	80	85	95		
CARPENTERS	Yearly	68	73	79	83						
CEMENT MASONS	6 Months										
ELECTRICIANS	Yearly	50	60	70	80						
GLAZIERS	Yearly	71	77	85							
IRONWORKERS	6 Months	60	70	75	80	85	90				
LATHERS	Yearly	53	67	82							
LEAD BURNERS											
MILLWRIGHTS	Yearly										
PAINTERS	Yearly	65	70	77							
PLASTERERS											
PLUMBER & FITTER	6 Months	50	55	60	65	70	75	80	85	90	95
ROOFERS	6 Months	65	70	75	80	85	90				
SHEET METAL	6 Months	45	50	55	60	65	70	75	80		

NOTE: The Wage Determination Decision shall be posted by the contractor at the site of the work in a prominent place where it can be easily seen and read by the workers.

ADDENDUM HH-2B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

BRICKLAYERS

"A" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BROOKE -	5.10	.10		
CABELL -	4.85		.35 ded.	20.00/yr.
HANCOCK -	5.10	.10		
HARRISON -	4.65			
JACKSON -	4.70			
KANAWHA -	4.85			
LEWIS -	4.65			
MARION -	4.30			
MARSHALL -	4.925	.10		
MASON -	4.85		.35 ded.	20.00/yr.
MONONGALIA -	4.70			
OHIO -	4.925	.10		
PLEASANTS -	4.70			
PRESTON -	4.70			
PUTNAM -	4.85			
TYLER -	4.925	.10		
WAYNE -	4.85		.35 ded.	20.00/yr.
WETZEL -	4.925	.10		
WOOD -	4.70			

"B" COUNTIES

	RATE	H&W	VACATION	AP.TR.
BERKELEY -	4.55			
FAYETTE -	4.85			
LOGAN -	4.85		.35 ded.	
McDOWELL -	4.85		.35 ded.	20.00/yr.
MERCER -	4.00			
MINGO -	4.85		.35 ded.	20.00/yr.
RALEIGH -	4.85			
TAYLOR -	4.65			
WYOMING -	4.00			

"C" COUNTIES

	RATE				RATE
BARBOUR -	4.50	HAMPSHIRE -	4.20	POCAHONTAS -	4.50
BOONE -	4.85	HARDY -	4.50	RANDOLPH -	4.50
BRAXTON -	4.85	JEFFERSON -	4.55	RITCHIE -	4.70
CALHOUN -	4.70	MINERAL -	4.20	ROANE -	4.70
CLAY -	4.85	MONROE -	4.00	SUMMERS -	4.85
DODDRIDGE -	4.65	MORGAN -	4.55	TUCKER -	4.50
GILMER -	4.65	NICHOLAS -	4.85	UPSHUR -	4.65
GRANT -	4.50	PENDLETON -	4.50	WEBSTER -	4.65
GREENBRIER -	4.85			WIRT -	4.70

	RATE	VACATION	APPRENTICE TRAINING
LINCOLN -	4.85	.35 deducted	$20.00 per year

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
ALL COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications...........	4.83	.15	.10	.02
CLASS II:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine.....................	4.33	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scraper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor..................	3.88	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant...............	3.73	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine..	3.53	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Heavy Construction the following.................	4.08	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer...........	3.33	.15	..10	.02

LABORERS

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	4.10	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker ..	3.85	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer ..	3.65	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	3.46	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	3.31	.10	.10
CLASS VI:	Watchman	3.00	.10	.10

TEAMSTERS

	RATE	H&W
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	3.41	.10
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen and Mechanic Helpers (truck)	3.51	.10
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.66	.10
Rubber-Tired Tractors (towing or pushing) ...	3.87	
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.92	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yard or over)....	4.02	.10
"A" Frame Operator	4.12	.10
Mechanics (truck), Foremen and/or Dispatchers.	4.17	.10

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HEAVY CONSTRUCTION RATES
1967

Bricklayers - Stone - See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.28	.10	.15	3.82	.10	.15
Pile Drivers	4.48			4.02		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.48	4.12	4.07
Cement Mason Helpers	First	3.46	3.10	3.05
	Second	3.87	3.51	3.46
	Third	4.63	3.92	3.86

OPERATING ENGINEERS

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION	AP. TR.
CLASS I:	Equipment with booms of 150 feet and/or capacity of 3 yards and over, front end loader with capacity of 4 yards and over, capacity to be based on manufacturer's specifications	4.73	.15	.10	.02
CLASS II:	Cable way, crane derrick (2 drums or more), derrick boat, dragline, dredge, gradall, hoist (2 drums or more), mechanic (heavy), mixer plant (2 or more mixers, including batch control), paver, (dual drums), pile driver, shovel, side boom tractor, trencher (20' or over), truck crane, backhoe, hi-lift (1½ cubic yards or over), dozer with ripper (when dozer is D-8 class or larger), double hitch equipment, bulldozer with roller, standard gauge locomotive, tug boat and concrete pump, controlled fine grade machine	4.23	.15	.10	.02
CLASS III:	Bulldozer, derrick (single drum), hi-lift (under 1½ cubic yards), hoist (single drum), single drum paver, trencher (under 20'), motor grader, air tugger, rubber-tired scraper, self-loading tractor pan, Ross Carrier, "A" Frame, multiple concrete saw, asphalt paver, hydraulic post driver, base paver, rotary drill, greaser and greaser truck and snake or push tractor	3.78	.15	.10	.02
CLASS IV:	Concrete mixer, (single drum) (one cubic yard or over), fork lift, asphalt batch plant, concrete batch plant, crushing plant, screening and washing plant	3.63	.15	.10	.02
CLASS V:	High pressure fireman, roller and compactor, self-propelled power concrete spreader, subgrader, power form handling equipment, burlap and curing machine, concrete finishing machine, form grader, bull float, portable concrete saw, bar and joint installing machine	3.43	.15	.10	.02
CLASS V-A:	Class V operators may operate up to five pieces of utility equipment and when operating more than one piece of such equipment, the Class V operator shall receive for Highway Construction the following.	3.98	.15	.10	.02
CLASS VI:	Air compressor, concrete mixer (under one cubic yard), conveyor-belt or bucket, light plant, narrow gauge locomotive, pump, welding machine, low pressure fireman, mechanic's helper, oiler, screed man, spreader box man, farm tractor and joint sealer	3.23	.15	.10	.02

LABORERS

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967
"A" COUNTIES

		RATE	H&W	PENSION
CLASS I:	Blacksmith, Tunnel Miner, Tunnel Driller	4.00	.10	.10
CLASS II:	Laborer Foreman, Powderman, Mucker-Chucker	3.75	.10	.10
CLASS III:	Caison Bottom Man, Pipe Layer, Form Setter (road), Drill Operator, and Inside Laborer	3.55	.10	.10
CLASS IV:	Air tool Operator, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Mason Tender, Blacksmith Helper, Cement Finisher Helper, Waterproofer, Sheeter & Shorer, Pipelayers Helper, Bullfloat Man, Pavement Reinforcing Placer, Drill Helper, Handyman, Signal Man, Asphalt Raker, Greencutter, Georgia Power Buggie, Burner, Grade Checker	3.36	.10	.10
CLASS V:	Laborer, Deckhand, Mulcher & Seeder (hand or machine), Tree Trimmer, Flagman	3.21	.10	.10
CLASS VI:	Watchman	2.90	.10	.10

TEAMSTERS

	RATE	H&W
Warehouse, Yardmen, Truck Helpers, Pickups, Station Wagons, Panel Trucks, Team 2-up	3.26	.10
Flatbody Material Trucks (straight jobs), Dump Trucks (up to 5 yards), Material Checkers, Material Receivers, Team 4-up, Greasers, Tiremen and Mechanic Helpers (truck)	3.36	.10
Semi-Dump Trucks, Semi-Trailers (flat, rack or pole), Low Boy Trucks, Distributor Trucks, Agitators or Mixer Trucks (up to and including 5 yards), Dump Trucks and Dumpsters (5 yards to 12 yards)	3.51	.10
Rubber-Tired Tractors (towing or pushing)	3.72	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (12 yards to 20 yards) Mucker Trucker	3.77	.10
Dump Truck, Agitator or Mixer Trucks and other hauling equipment (20 yards or over)	3.87	.10
"A" Frame Operator	3.92	.10
Mechanics (truck), Foremen and/or Dispatchers	4.02	.10

WELDERS: Receive rates prescribed for craft performing operation to which welding is incidental.

NOTE: Double hitched equipment operated by one driver shall pay 50% more than the wages set out above.

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY CONSTRUCTION RATES
1967

Bricklayers -Stone- See Addendum HH-2B

Painters - See Addendum HH-3B

	"A" COUNTIES			"B" & "C" COUNTIES		
	RATE	H&W	PENSION	RATE	H&W	PENSION
Carpenters	4.18	.10	.15	3.46	.10	.15
Pile Drivers	4.38			3.67		

		"A" COUNTIES	"B" COUNTIES	"C" COUNTIES
Cement Masons		4.38	3.76	3.71
Cement Mason Helpers	First	3.46	2.93	2.92
	Second	3.76	3.13	3.32
	Third	4.17	3.74	3.73

ADDENDUM HH-1B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
1967

IRON WORKERS

"A" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BROOKE -		4.95	.20	.15	.01
CABELL -		5.05	.20	.25	.01
HANCOCK -		4.95	.20	.15	.01
HARRISON -		4.95	.20	.15	.01
JACKSON -		5.10	.20	.25	.01
KANAWHA -		4.75	.20	.25	
LEWIS -		5.10	.20	.25	.01
MARION -		4.95	.20	.15	.01
MARSHALL -		4.95	.20	.15	.01
MASON -		5.10	.20	.25	.01
MONONGALIA -		4.95	.20	.15	.01
OHIO -		4.95	.20	.15	.01
PLEASANTS -		5.10	.20	.25	.01
PRESTON -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
PUTNAM -		4.75	.20	.25	
TYLER -		4.95	.20	.15	.01
WAYNE -		5.05	.20	.25	.01
WETZEL -		4.95	.20	.15	.01
WOOD -		5.10	.20	.25	.01

"B" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BERKELEY-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	10	.10	
FAYETTE -		4.75	.20	.25	
LOGAN -		4.75	.20	.25	
McDOWELL-		4.75	.20	.25	
MERCER -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MINGO -		5.05	.20	.25	.01
RALEIGH -		4.75	.20	.25	
TAYLOR -		4.95	.20	.15	.01
WYOMING -		4.75	.20	.25	

"C" COUNTIES

		RATE	H&W	PENSION	AP.TR.
BARBOUR -		4.95	.20	.15	.01
BOONE -		4.75	.20	.25	
BRAXTON -		4.75	.20	.25	
CALHOUN -		5.10	.20	.25	.01
CLAY -		4.75	.20	.25	
DODDRIDGE -		5.10	.20	.25	.01
GILMER -		5.10	.20	.25	.01
GRANT -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
GREENBRIER-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
HAMPSHIRE-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	10	
HARDY -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
JEFFERSON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
LINCOLN -		4.75	20	.25	
MINERAL -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	

		RATE	H&W	PENSION	AP.TR.
MONROE -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
MORGAN -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
NICHOLAS-		4.75	.20	.25	
PENDLETON-	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
POCAHONTAS-	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
RANDOLPH -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
RITCHIE -		5.10	.20	.25	.01
ROANE -		5.10	.20	.25	.01
SUMMERS -	Str.	4.20	.15	.05	
	Orn.	4.20	.15	.05	
	Rein.	4.05	.15	.05	
TUCKER -	Str.	4.60	.10	.10	
	Orn.	4.60	.10	.10	
	Rein.	4.45	.10	.10	
UPSHUR -		5.10	.20	.25	.01
WEBSTER -		4.75	.20	.25	
WIRT -		5.10	.20	.25	.01

ADDENDUM HH-3B

WEST VIRGINIA DEPARTMENT OF LABOR
HIGHWAY AND HEAVY CONSTRUCTION
"A" COUNTIES
1967

PAINTERS

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
BROOKE	4.00	4.35	4.35	
CABELL	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
HANCOCK	4.00	4.35	4.35	
HARRISON	4.00	4.50	4.50	
JACKSON	4.25	4.75	4.75	
KANAWHA	4.625	4.975	4.875	
MARION	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	5.00 to 100' .50 more over 100'	
MARSHALL	3.90	4.20	4.20	.10
MASON	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
MONONGALIA	5.50 to 200' .75 more for each 100'	5.50 to 200' .75 more for each 100'	5.50 to 200' .75 more for each 100'	
OHIO	3.90	4.20	4.20	.10
PLEASANTS	4.25	4.75	4.75	

COUNTY	BRUSH	SPRAY	SANDBLASTING AND STEAM CLEANING	HEALTH AND WELFARE
PUTNAM	4.625	4.975	4.875	
TYLER	4.25	4.75	4.75	
WAYNE	4.60 - 1' to 40' 4.85 -40' to 70' 5.05 -70' to 100' 5.55 -100' to 150' 6.05 -150' to 200' 6.55 -200' to 250' 7.05 -250' to 300'	1.00 more per hour than brush rate	1.00 more per hour than brush rate	
WETZEL	3.90	4.20	4.20	.10
WOOD	4.25	4.75	4.75	
LEWIS	4.00	4.50	4.50	
PRESTON	5.50 to 200' .75 more each 100'	5.50 to 200' .75 more each 100'	5.50 to 200' .75 more each 100'	

STANDARD FORM 21
DECEMBER 1965 EDITION
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41 CFR) 1-16.401

BID FORM
(CONSTRUCTION CONTRACT)

REFERENCE

Read the Instructions to Bidders (Standard Form 22)
This form to be submitted in

DATE OF INVITATION

NAME AND LOCATION OF PROJECT

NAME OF BIDDER *(Type or print)*

(Date)

TO: U. S. Department of the Interior
Federal Water Pollution Control Administration
633 Indiana Avenue N. W.
Washington, D. C. 20242

In compliance with the above-dated invitation for bids, the undersigned hereby proposes to perform all work for remedial construction on Mines No. 64-014, 64-016 & 64-017.

in strict accordance with the General Provisions (Standard Form 23-A), Labor Standards Provisions Applicable to Contracts in Excess of $2,000 (Standard Form 19-A), specifications, schedules, drawings, and conditions, for the following amount(s)

Item No.	Description	Quantity	Unit	Unit Price	Estimated Amount
1.	Clearing and Grubbing		L.S.*		
2.	Excavating	1,930	C.Y.		
3.	Preparation of Opening		L.S.*		
4.	Expendable Grout Retainer Plug Slurry	10,080	C.F.		
5.	Monitoring		L.S.*		
		TOTAL			

* Lump Sum

(Continue on other side)

NOTES: (1) All quantities are estimated except where unit is given as "Lump Sum" or "Each".

(2) All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.

(3) If a bid or modification to a bid based on unit prices is submitted and provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price, including lump sum units, in the bid schedule must be stated or if it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the bid schedule.

The undersigned agrees that, upon written acceptance of this bid, mailed or otherwise furnished within 30 calendar days (calendar days unless a different period be inserted by the bidder) after the date of opening of bids, he will within 10 calendar days (unless a longer period is allowed) after receipt of the prescribed forms, execute Standard Form 23, Construction Contract, and give performance and payment bonds on Government standard forms with good and sufficient surety.

The undersigned agrees, if awarded the contract, to commence the work within fifteen (15) **calendar days after the date of receipt of notice to proceed, and to complete the work within calendar days after the date of receipt of notice to proceed.**

RECEIPT OF AMENDMENTS: *The undersigned acknowledges receipt of the following amendments of the invitation for bids, drawings, and/or specifications, etc. (Give number and date of each):*

Plant of the character and in the amount required to complete the work within the specified time*(is) *(is not) available and under control of the Bidder.

* (Cross out one).

The representations and certifications on the accompanying STANDARD FORM 19-B are made a part of this bid.

ENCLOSED IS BID GUARANTEE, CONSISTING OF

IN THE AMOUNT OF

NAME OF BIDDER *(Type or print)*

FULL NAME OF ALL PARTNERS *(Type or print)*

BUSINESS ADDRESS *(Type or print) (Include "ZIP Code")*

BY *(Signature in ink. Type or print name under signature)*

TITLE *(Type or print)*

DIRECTIONS FOR SUBMITTING BIDS: *Envelopes containing bids, guarantee, etc., must be sealed, marked, and addressed as follows:*

CAUTION—Bids should not be qualified by exceptions to the bidding conditions.

* U.S. GOVERNMENT PRINTING OFFICE 1968 O—321-124

PLANT AND EQUIPMENT SCHEDULE

(To be attached to Standard Form 21)

*Available Plant to be Used

No.	Type	Capacity	Manufacturer	Age & Condition	Location

Note: *Provide separate table for each type of equipment such as excavation, pile driving, concrete handling, material handling, etc. Use separate line for each major item. Use additional pages if necessary.

STANDARD FORM 19-B DECEMBER 1965 EDITION GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.401	**REPRESENTATIONS AND CERTIFICATIONS** **(Construction Contract)** **(For use with SF 19 and 21)**	REFERENCE (*Enter same No.(s) as on SF 19/21*)

NAME AND ADDRESS OF BIDDER (*No., Street, City, State, and ZIP Code*)	DATE OF BID

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. *(Check appropriate boxes.)*

1. SMALL BUSINESS

He ☐ is, ☐ is not, a small business concern. *(For this purpose, a small business concern is a business concern, including its affiliates, which (a) is independently owned and operated, (b) is not dominant in the field of operation in which it is bidding on Government contracts, and (c) had average annual receipts for the preceding 3 fiscal years not exceeding $7,500,000. For additional information see governing regulations of the Small Business Administration.)*

2. CONTINGENT FEE

(*a*) He ☐ has, ☐ has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (*b*) he ☐ has, ☐ has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (*a*) and (*b*) above as requested by the Contracting Officer. *(For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)*

3. TYPE OF ORGANIZATION

He operates as an ☐ individual, ☐ partnership, ☐ joint venture, ☐ corporation, incorporated in State of ______________________________

4. INDEPENDENT PRICE DETERMINATION

(*a*) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor, and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(*b*) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (*a*)(1) through (*a*)(3) above.

(*c*) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(*d*) A bid will not be considered for award where (*a*)(1), (*a*)(3), or (*b*) above, has been deleted or modified. Where (*a*)(2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS $10,000 IN AMOUNT.

5. EQUAL OPPORTUNITY

He ☐ has, ☐ has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he ☐ has, ☐ has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards. *(The above representation need not be submitted in connection with contracts or subcontracts which are exempt from the clause.)*

6. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(*a*) Is the bidder owned or controlled by a parent company as described below? ☐ Yes ☐ No. *(For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)*

(*b*) If the answer to (*a*) above, is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY	MAIN OFFICE ADDRESS (*No., Street, City, State, and ZIP Code*)

(*c*) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) *(Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941)*, or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF ➤	PARENT COMPANY	BIDDER

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

U.S. GOVERNMENT PRINTING OFFICE : 1966 O - 219-198

PART II - SPECIAL PROVISIONS

SP-1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK: The Contractor will be required to commence work under this contract within fifteen (15) calendar days after the date of receipt by him of notice to proceed, to prosecute said work diligently, and to complete the entire work ready for use in accordance with the following schedule:

Work to be Performed	Completion Time After Notice to Proceed	Liquidated Damages Each Calendar Day
1. Mobilize, complete layout for Work Site I, clear and grub Work Site I and make initial excavation to initiate mine drainage.	19 Calendar Days	$60.00
2. Clear and grub Work Sites II and III and lay out sites, build access road to Work Site IV, clear and grub and lay out site.	26 Calendar Days	$60.00
3. Complete excavation of Work Sites III and IV and perform remedial work on Openings 6, 5 and 4.	39 Calendar Days	$60.00
4. Complete excavation for Work Sites I and II and perform remedial work on Openings 1, 2 and 3.	46 Calendar Days	$60.00
5. Complete final cleanup and removal of construction facilities	48 Calendar Days	$30.00

See Section I - Construction General - for Order of Work.

SP-2. LIQUIDATED DAMAGES: In case of failure on the part of the Contractor to complete the work within the time fixed in the contract or any extensions thereof, the Contractor shall pay to the Government as liquidated damages, pursuant to Paragraph 5, General Provisions , entitled "Termination for Default - Damages for Delay - Time Extensions", the sums set forth in paragraph SP-1 for each calendar day of delay until the work is completed or accepted.

SP-3. CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS:

a. Five sets of Contract Drawings, maps and specifications will be furnished the Contractor without charge except applicable publications incorporated into the Technical Provisions by reference. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the following Contract Drawings and maps, all of which form a part of these specifications and are available in the office of the Project Officer, Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia 26003:

Title	Drawing No.	Date
Vicinity and Mine Site Map	101-1	September, 1967
Work Site I - Opening No. 1	101-2	September, 1967
Work Site II - Openings No. 2 & 3	101-3	September, 1967
Work Site III - Opening No. 4	101-4	September, 1967
Work Site IV - Openings No. 5 & 6	101-5	September, 1967
Mine Plug-Expendable Grout Retainer	101-6	September, 1967
Dimensional Specifications - Expendable Grout Retainer	101-7	September, 1967
Assembly - Expendable Grout Retainer	101-8	September, 1967

b. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

c. The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Project Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

SP-4. SHOP DRAWINGS: The Contractor shall submit to the Project Officer for approval, one print and one reproducible of all shop drawings as called for under the contract. These drawings shall be complete and detailed. If approved by the Project Officer, each copy of the reproducibles will be identified as having received such approval by being so stamped and dated. The Contractor shall make any corrections required. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or specifications, notice as required under the clause entitled "Changes" will be given to the Project Officer. The prints of all shop drawings will be retained and the reproducibles will be returned. The approval of the

drawings by the Project Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of the responsibility for any error which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. Upon completion of work under this contract, the Contractor shall furnish a complete set of process tracings together with one (1) complete set of black and white prints of all drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted, and shall be of sufficient clarity for microfilm copying. The contract will not be considered complete, and final payment will not be made until satisfactory prints and tracings have been received.

a. Catalog and Descriptive Data: The Contractor shall submit to the Project Officer for approval three (3) sets of catalog data, descriptive literature and specifications for all equipment and material furnished and specifically required under the technical provisions of the contract. If approved, one (1) set of the data will be returned to the Contractor so marked and dated. If the material or equipment proposed is not approved, the Contractor shall make the required corrections or additions and submit three (3) additional sets of the revised data for approval.

SP-5. PHYSICAL DATA: Information and data furnished or referred to below are furnished for the Contractor's information. However, it is expressly understood that the Government will not be responsible for any

interpretation or conclusion drawn therefrom by the Contractor.

a. The Physical Conditions indicated on the drawings and in the specifications are the result of site investigations by surveys, tests and explorations. The data shown represents the actual geologic features observed and logged at the location given on the drawings. While the reports are representative of conditions at their respective locations, local minor variations are anticipated and if encountered, such variations will not be considered as differing "materially" within the purview of General Provision No. 4 of the contract.

b. Weather Conditions at the site of the work are listed on the Weather Chart attached at the end of the Special Provisions Section.

c. Transportation Facilities: It shall be the responsibility of the Contractor to visit the site of the work and examine the transportation facilities as they apply to his own needs. The facilities in the vicinity of the project are as follows:

(1) Existing Roads: The area is served by Federal Highway 19 & 50 and State Highway 20. Federal Highway 19 passes by the project site.

(2) Existing Rail Facilities: The Baltimore & Ohio Railroad passes through the project area.

SP-6. VARIATIONS IN ESTIMATED QUANTITIES: Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of such pay item varies more than fifteen (15) percent above or below the estimated quantity stated in this contract, as it may hereafter be modified, an equitable adjustment in the contract unit price shall be made upon demand of either party. If the quantity variation is such as to cause an increase in the time necessary for completion, the Project Officer

shall, upon receipt of a written request for an extension of time within ten (10) days from the beginning of such delay, or within such further period of time which may be granted by the Project Officer prior to the date of final settlement of the contract, ascertain the facts and make such adjustment for extending the completion date as in his judgment the findings justify. If the parties fail to agree upon equitable adjustment in the contract price or time, the dispute shall be determined as provided in the General Provision 6 of this contract entitled "Disputes".

SP-7. LAYOUT OF WORK:

a. The Government will establish the following base lines and bench marks at the site of the work:

(1) Base lines and control points so that alignment for construction operations can be produced by the Contractor.

(2) Bench marks where necessary so the Contractor may extend for construction operations.

b. From the base lines and bench marks established by the Government, the Contractor shall complete the layout of the work and shall be responsible for all measurements that may be required for the execution of the work to the location and limit marks prescribed in the specifications or on the Contract Drawings, subject to such modifications as the Project Officer may require to meet changed conditions or as a result of necessary modifications to the contract work.

c. The Contractor shall furnish, at his own expense, such stakes,

templates, platforms, equipment, tools and material, and all labor as may be required in laying out any part of the work from the base lines and bench marks established by the Government. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Project Officer until authorized to remove them; and if such marks are destroyed, by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the Project Officer, at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the Contractor. The Project Officer may require that work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking of the work.

SP-8. QUANTITY SURVEYS:

a. The Government will make original and final surveys and make computations to determine the quantities of work performed or finally in place.

b. The Contractor shall make such surveys and computations as are necessary to determine the quantities of work performed or placed during each period for which a progress payment is to be made. All original field notes, computations and other records taken by the Contractor for the purpose of progress surveys shall be furnished promptly to the Project Officer and shall be used to the extent necessary in determining the proper amount of progress payments due to the Contractor. Unless waived in each specific case, quantity surveys made by the Contractor shall be made under

the direction of the Project Officer.

SP-9. SCHEDULING AND DETERMINATION OF PROGRESS:

a. Independent of progress payments made pursuant to the General Provision entitled "Payments to Contractor", progress schedules prepared under the requirements of General Provision 35 entitled, "Progress Charts and Requirements for Overtime Work", shall provide as scheduled progress only 30 percent of the estimated invoiced cost of materials or equipment delivered to the site but not incorporated in the work as of the time of the scheduled delivery thereof.

b. In determining progress accomplished, the Project Officer will allow as an element of work accomplished (progress toward completion) only 30 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated in the construction up to the time the materials or equipment are actually incorporated in the work.

SP-10. TIME EXTENSIONS: Notwithstanding any other provisions of this contract, it is mutually understood that the time extensions for changes in the work will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended for only those specific elements so delayed and that the remaining contract completion dates for all other portions of the work will not be altered and may further provide for an equitable readjustment of liquidated damages pursuant to the new completion schedule.

SP-11. PAYMENT: Payment for the various items listed in the Bidding Schedule shall constitute full compensation for furnishing all plant, labor, equipment, appliances and materials, and for performing all operations required to complete the work in conformity with the drawings and specifications. All costs in connection with work not specifically mentioned in the Bidding Schedule shall be included in the contract prices for the items listed.

SP-12. DAMAGE TO WORK: The responsibility for damage to any part of the permanent work shall be as set forth in General Provision 12 entitled "Permits and Responsibilities". However, if, in the judgment of the Project Officer, any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor will make the repairs as ordered by the Project Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Project Officer, there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to General Provisions 3 of the contract entitled "Changes" will be made as full compensation for the repairs of the part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment and plant shall be

repaired to the satisfaction of the Project Officer at the Contractor's expense, regardless of the cause of such damage.

SP-13. CERTIFICATES OF COMPLIANCE: Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in three (3) copies unless otherwise specified. Each certificate shall be signed by an authorized officer of the manufacturing company and shall contain the name and address of the Contractor, the project name and location and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the test to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

SP-14. MODIFICATION PROPOSALS - PRICE BREAKDOWN: The Contractor shall furnish a price breakdown with his proposal in connection with a contract modification itemized as required by the Project Officer. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract and overhead costs, as well as profit, and shall cover all work involved to accomplish the modification, whether deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a

justification therefor shall also be furnished. The proposal together with the price breakdown and time extension justification shall be furnished by such date as may be specified by the Project Officer.

SP-15. AUTHORIZED REPRESENTATIVE OF THE CONTRACTING OFFICER: The Project Officer shall be designated as an authorized representative of the Contracting Officer in all matters pertaining to direction of the work, and as such is authorized to perform inspection for acceptance and acceptance of materials and services to be provided by the Contractor.

SP-16. SPECIAL SAFETY REQUIREMENTS: The following requirements are supplementary to General Provision 40, Accident Prevention, and to the safety recommendations included in the Corps of Engineers "General Safety Requirements", manual EM 385-1-1, which shall be considered minimum requirements in the administration of this contract. The Contractor, when directed to do so, shall collaborate with the Project Officer and prepare an outline of a plan indicating what specific measures he will take to combat specific hazards anticipated on major phases of construction.

a. Fire Protection:

(1) Temporary heating devices which are of the open-flame type, with the exposed fuel below the flame, and using such fuels as coke, oil or wood are strictly forbidden. Temporary heating devices shall not be left unattended while being operated at night or on non-work days or shifts.

(2) All tarpaulins used for enclosures around structures and work areas shall be flameproofed.

b. Grounding of Electrical Equipment: All electrical construction equipment, including portable hand tools, cable and apparatus, shall be grounded by a separate grounding conductor other than the service cords or by a multiple cord containing a separate ground conductor, all in accordance with the requirements of the latest edition of the National Electrical Code.

c. Hauling Equipment: All hauling equipment (except rubber-tired and crawler-type tractor and scraper units) shall be equipped with the manufacturer's standard cabs or cabs approved by the Project Officer, provided that cabs have a steel frame with doors, safety glass windows, and windshield wipers. Water trucks, grease trucks and other similar equipment are considered hauling units. All cabs shall be maintained in first-class condition. Tractors and scrapers, as excepted above, when loaded from above, shall be provided with adequate overhead protection.

d. Hard Hats: The Contractor shall furnish and enforce the use of protective headgear (hard hats) for all persons working on or visiting work performed under this contract. Hard hats shall be worn from the start of the project until completion unless otherwise approved by the Project Officer.

e. Boom Stops: On all machines where boom stops are required, they shall be of the telescopic shock-absorbing type.

f. Clearing Equipment: Bulldozers and other similar equipment shall have suitable shields or guards attached which will protect operators from falling trees or falling or flying limbs, broken cables and similar hazards. Minimum standards for shields and guards on clearing equipment will be those set forth in attached Plate 3, Tractor Canopies.

g. Carbon Tetrachloride: The use of carbon tetrachloride for cleaning purposes or as a fire extinguishing agent is prohibited.

h. Visitors: It shall be the responsibility of the Contractor to prevent possible injury to visitors at the project site. Suitable barriers, warning signs and directives shall be placed to direct persons not engaged in the work away from areas of danger. Proper guidance shall be set up where feasible to direct visitors into established areas of safety.

i. Safety Sign: The Contractor shall furnish a safety sign constructed in accordance with attached Plate 4. The sign shall be erected at the project site by the Contractor with the exact location to be determined by the Project Officer. The sign will not be considered for direct payment.

SP-17. CONTRACTOR QUALITY CONTROL: The Contractor shall provide and maintain an effective quality control program that complies with General Provision 23 of the contract entitled "Contractor Inspection System".

a. The Contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of his subcontractors, to ensure conformance to applicable specifications

and drawings with respect to the materials, workmanship, construction, finish, functional performance, and identification.

b. The Contractor shall furnish to the Project Officer within 15 days after receipt of Notice to Proceed a quality control plan which shall include the procedures and instructions to be used. A daily report, similar to the Construction Quality Control Report attached at the end of the Special Provisions Section, shall be used by the Contractor for his report to the Project Officer.

c. Unless specifically authorized by the Project Officer, no construction will be started until the Contractor's quality control plan is approved.

SP-18. PERFORMANCE OF WORK BY CONTRACTOR: The Contractor shall perform on the site, and with his own organization, work equivalent to at least fifty percent (50%) of the total amount of work to be performed under the contract. If, during the progress of work hereunder, the Contractor requests a reduction in such percentage; and the Project Officer determines that it would be to the Government's advantage, the percentage of work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Project Officer, and further provided that the Contractor furnishes adequate additional superintendence which is occasioned by the increase in subcontractors.

SP-19. INSURANCE REQUIRED:

a. The Contractor shall procure and shall maintain during the entire

period of performance under this contract the following minimum insurance: Contractors performing work within a Government installation shall furnish a statement attesting to the existence of insurance for bodily injury and property damage, in addition to legally required insurance of Comprehensive, General Liability and Automobile Liability Insurance. Such evidence of insurance shall be furnished to the Project Officer and shall be in such limits as is deemed reasonable under the circumstances. In no event shall these limits be less than $5,000 for property damage. Where the Financial Responsibility for Compulsory Insurance Law of the state in which the installation is located requires higher limits, the Automobile Liability insurance policy shall provide coverage for at least those limits. Prior to the commencement of work hereunder, evidence of insurance shall be furnished in a form satisfactory to the Project Officer. In addition, the Contractor shall furnish evidence of a commitment by the insurance company to notify the Project Officer in writing of any material change, expiration or cancellation of any of the insurance policies required hereunder not less than 10 days before such change, expiration or cancellation is effective, unless otherwise required by state law.

b. Unless the insurance coverage carried by the Contractor pursuant to a above specifically includes all subcontractors, the Contractor shall require each subcontractor performing work hereunder to procure and maintain during the entire period of its performance under this contract the types and minimum amounts of insurance coverage as stated in

a above. Evidence of such subcontract insurance coverage shall be furnished to the Contracting Officer with the statement as to subcontractors required under General Provision 36 entitled "Subcontractors".

WEATHER CONDITIONS at the site of the work are approximately as listed below. Complete weather records and reports may be obtained from the U.S. Weather Bureau. On the basis of Weather Bureau records available in the Monongahela River Mine Drainage Remedial Project, 401 Methodist Building, 11th and Chapline Streets, Wheeling, West Virginia, the following weather summary is listed for convenience:

CLIMATOLOGICAL DATA
ANNUAL SUMMARY 1966
CLARKSBURG STATION, HARRISON COUNTY
WEST VIRGINIA. LATITUDE 38° 27'
LONGITUDE 81° 05'. ELEVATION 977'

	Average Temperature (°F) & Departure From Normal		Total Precipitation (in inches) and Departure From Normal	
Month	Avg.	Dep.	Avg.	Dep.
Jan.	24.7	-7.8	3.96	.54
Feb.	32.1	- .8	3.66	.75
Mar.	42.9	3.1	1.06	-2.34
Apr.	49.6	-1.8	5.00	1.69
May	58.5	-3.1	1.37	-2.62
June	69.2	-1.2	1.94	-2.38
July	74.6	1.1	2.76	-1.81
Aug.	70.6	-1.5	3.61	- .85
Sept.	61.4	-4.0	3.16	- .04
Oct.	49.3	-4.5	1.38	-1.20
Nov.	43.3	1.5	3.04	.45
Dec.	33.7	.4	1.79	-1.24
Annual	50.8	-1.6	32.73	-9.05
Highest Temp.	100°	7-3-66		
Lowest Temp.	-8°	2-1-66		

CONTRACTOR'S NAME
(Address)

(Daily) (Biweekly) (Weekly) CONSTRUCTION QUALITY CONTROL REPORT

DATE:____________________ Report No.________

Contract No.____

Description and Location of Work:______________________________

WEATHER: (Clear) (P. Cloudy) (Cloudy); Temperature: ____Min., ______Max.
Rainfall_________inches

Contractor/Subcontractors and Area of Responsibility

a. ____
b. ____
c. ____
d. ____
e. ____
f. ____
g. ____

1. Work Performed Today: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in table above.)

____

2. Results of Surveillance: (Include satisfactory work completed, or deficiencies with action to be taken.)

____

3. Tests Required by Plans and/or Specifications Performed and Results of Tests:

____

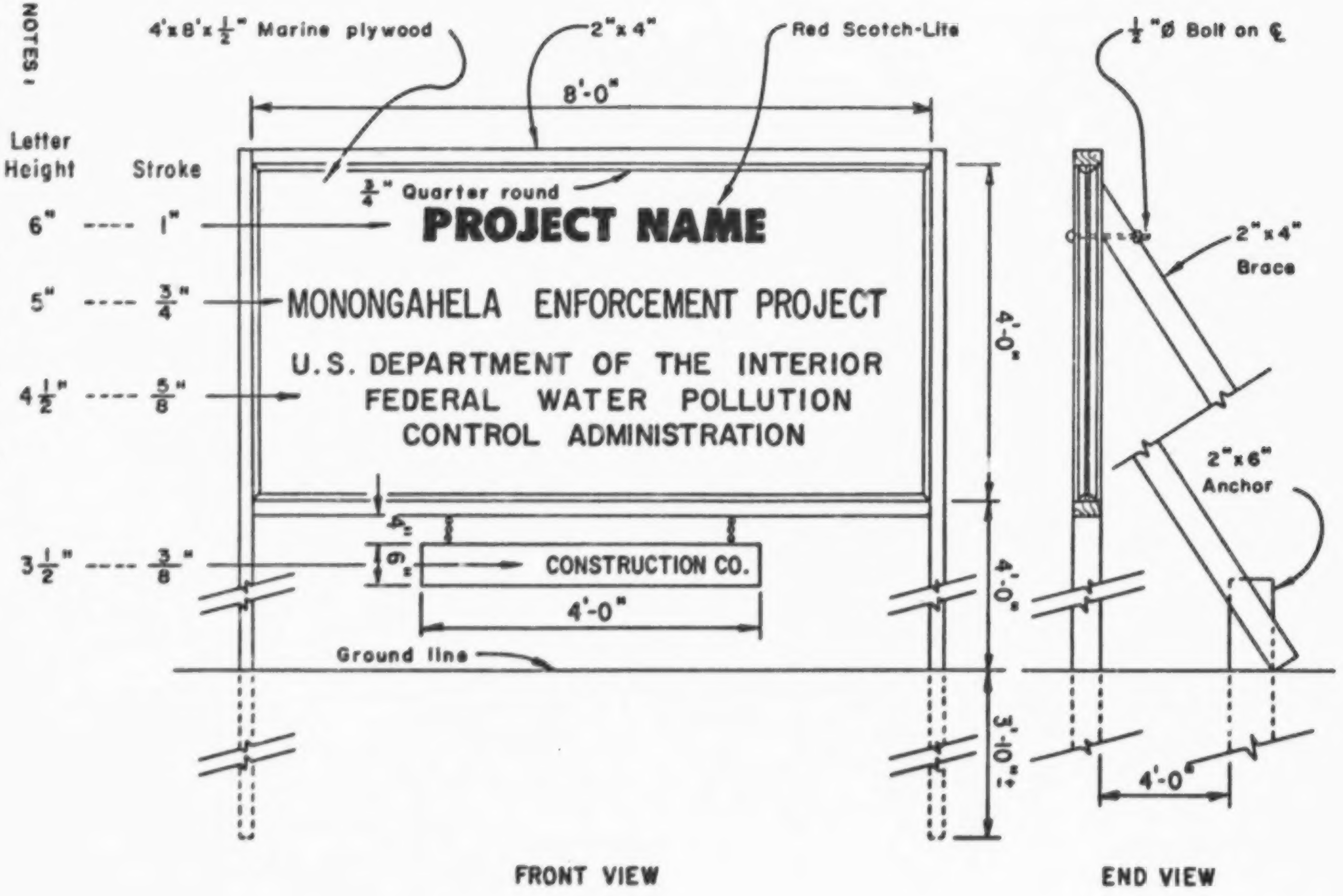
4. Verbal Instructions Received: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. Remarks: (Cover any conflicts in plans, specifications, or instructions.)

Inspector

CONTRACTOR'S VERIFICATION: The above report is complete and correct and all material and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications except as noted above.

Contractor's Approved Authorized Representative

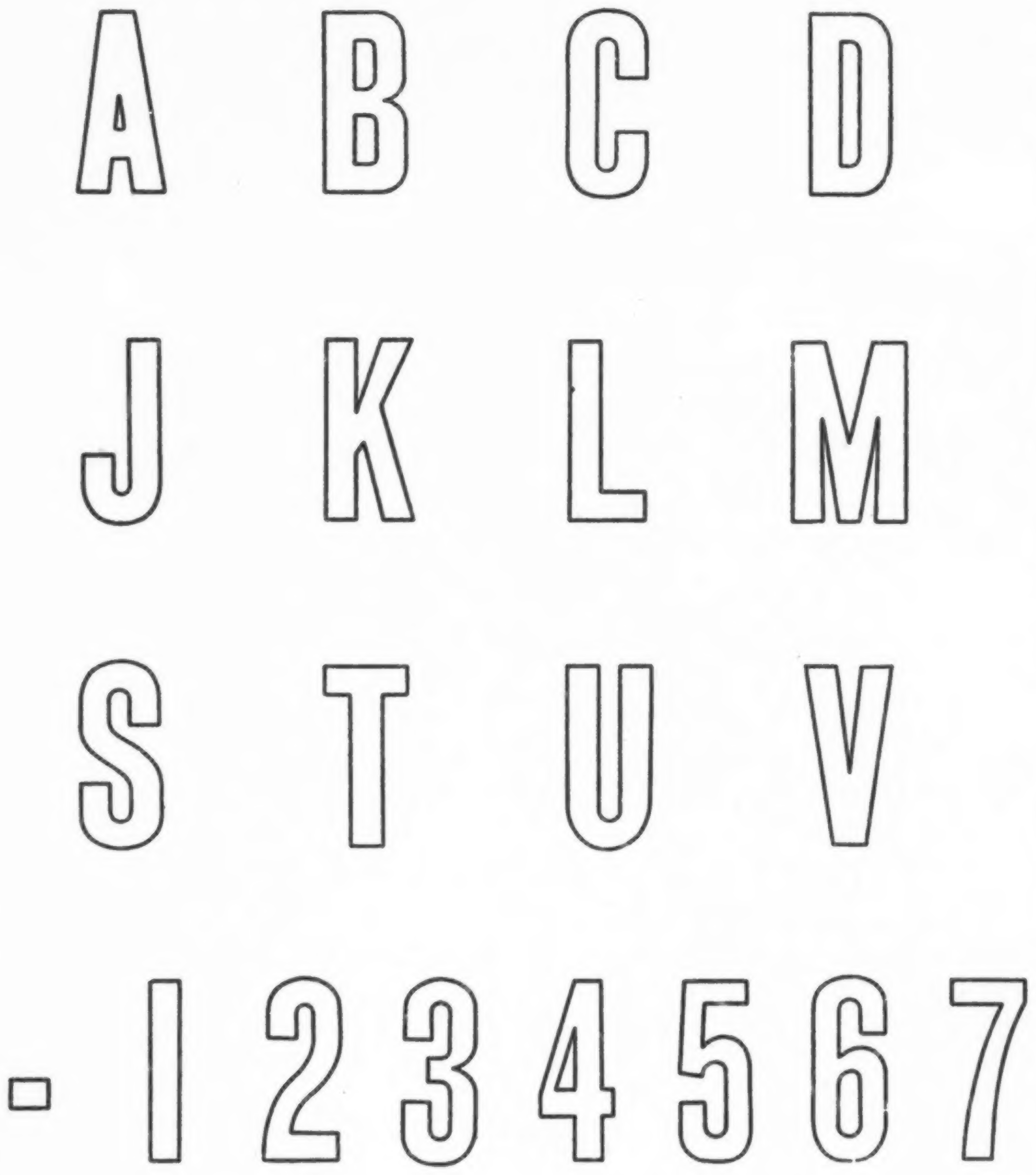

4'x8'x$\frac{1}{2}$" Marine plywood
2"x4"
Red Scotch-Lite
$\frac{1}{2}$"Ø Bolt on ℄
8'-0"
Letter Height
Stroke
6" ---- 1"
5" ---- $\frac{3}{4}$"
4$\frac{1}{2}$" ---- $\frac{5}{8}$"
3$\frac{1}{2}$" ---- $\frac{3}{8}$"
$\frac{3}{4}$" Quarter round
PROJECT NAME
MONONGAHELA ENFORCEMENT PROJECT
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
4"
6"
CONSTRUCTION CO.
4'-0"
Ground line
4'-0"
4'-0"
3'-10"±
2"x4"
Brace
2"x6"
Anchor
4'-0"
FRONT VIEW
END VIEW

NOTES:

1. Before painting, surface to be clean, dry, free from grease and sanded.
2. Paint with one prime coat zinc oxide conforming to Fed. Specs. TT-P-641 and two finish coats white paint conforming to Fed. Specs. TT-P-104.
3. All lettering to be black enamel except as noted.
4. For lettering alphabet see PLATE 2

STANDARD
PROJECT SIGN

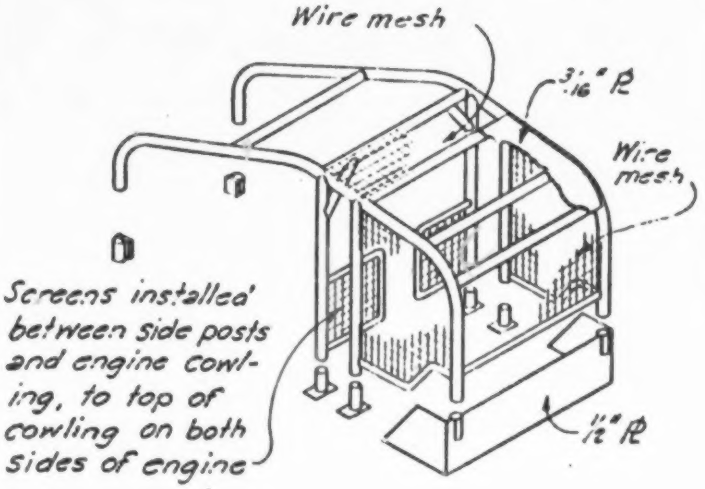
PLATE I

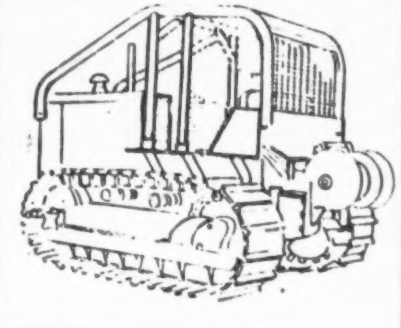

A B C D
J K L M
S T U V
- 1 2 3 4 5 6 7

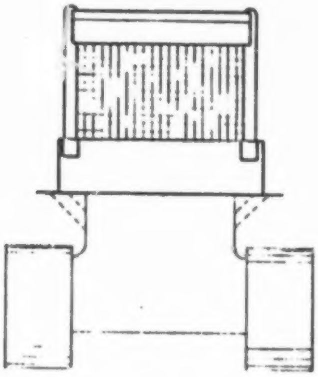
STANDARD
ALPHABET & NUMERALS

SP-21

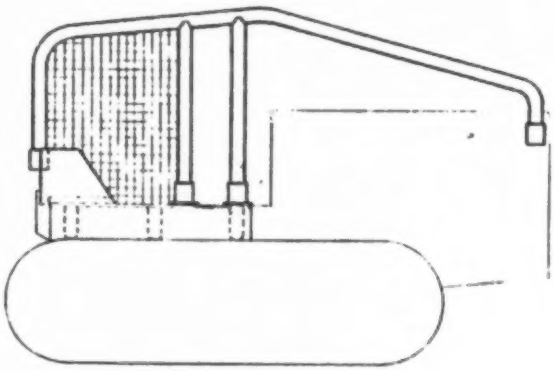
PLATE 2


Wire mesh
3/16" R
Wire mesh
Screens installed between side posts and engine cowling, to top of cowling on both sides of engine
1/2" R

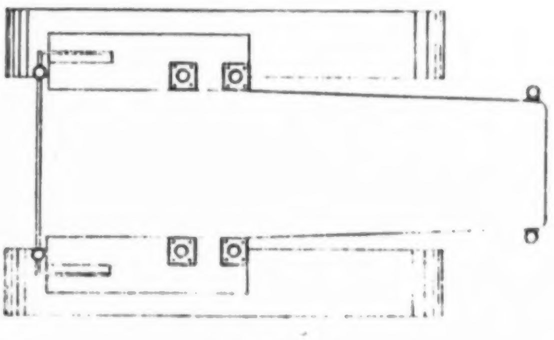




BACK VIEW



SIDE VIEW



PLAN VIEW

SPECIFICATIONS

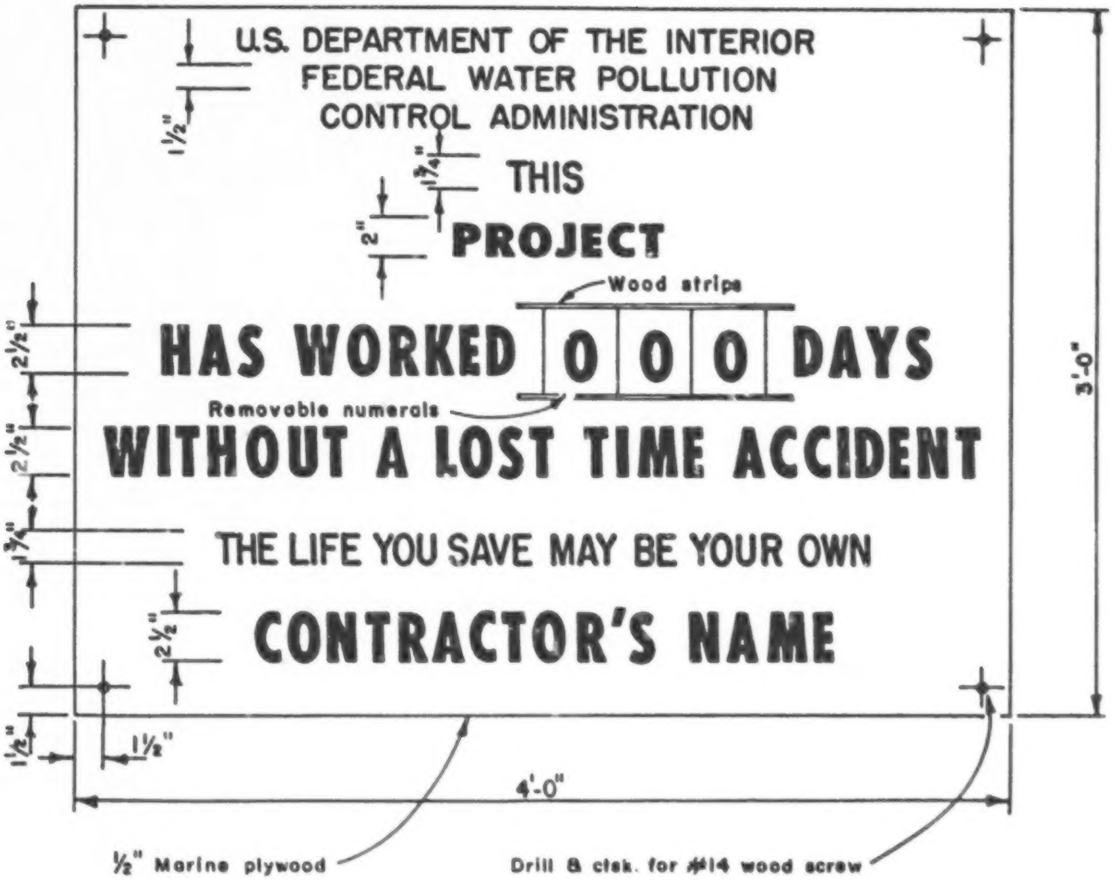
1. Pipe shall be extra heavy seamless ASTM-A-53, Grade-A.
2. All pipe formed by cold bend process using pipe dies which will confine deformation of roundness to 100 diameters.
3. Tank guard - ½" plate ASTM-A 7.
4. Top plate - 3/16" plate ASTM-A 7.
5. Top mesh - 4.27 lb./sq. ft. expanded metal. (Optional)
6. Rear mesh - 2 × 2 × 1/16" woven wire mesh.
7. All welds shall be continuous and equal in cross section to the lightest member.
8. Welding-welds shall be made only by operators who have been previously qualified by tests, as prescribed in the "Standard Qualification Procedure" of the American Welding Society.
9. Arc-Welding electrodes shall conform to the requirements of the "Specifications for Iron and Steel Arc-Welding electrodes" of the American Welding Society, latest edition.
10. Surfaces to be welded shall be free from loose scale, slag, rust, grease, paint, and any other foreign material, except that mill scale which withstands vigorous wire brushing may remain. Joint surfaces shall be free from fins and tears. Preparation of edges by gas cutting shall, wherever practicable, be done with a mechanically guided torch.
11. Pipe brackets under fenders shall be extra heavy pipe equal in diameter to main canopy members.
12. Pipe braces on center legs shall be extra heavy pipe of a size and length suitable various loading conditions that apply.
13. Painting: Shop coat - After inspection and approval and before leaving the shop all steel shall be thoroughly cleaned, by effective means, of all loose mill scale rust, spatter, slag, oil, dirt, and other foreign matter.

MINIMUM REQUIREMENTS

Gross tractor weight including attachments without canopy	Pipe diameter
Under 28,000 lb.	2½ inches
28,000 to 56,000 lbs.	3 inches
Over 56,000 lbs.	4 inches

SAFETY STANDARD
TRACTOR CANOPIES

PLATE 3



U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
THIS
PROJECT
Wood strips
HAS WORKED 0 0 0 DAYS
Removable numerals
WITHOUT A LOST TIME ACCIDENT
THE LIFE YOU SAVE MAY BE YOUR OWN
CONTRACTOR'S NAME
1½"
1¾"
2"
2½"
2½"
1¾"
2½"
1½"
1½"
3'-0"
4'-0"
½" Marine plywood
Drill & ctsk. for #14 wood screw

NOTES:

1. Board to be sanded and painted with one prime coat and two coats white enamel.
2. All lettering to be black enamel except as noted.
3. Three (3) sets removable numerals (0 thru 9) painted on ⅛" tempered pressed wood.

SAFETY SIGN

PLATE 4

PART III - TECHNICAL PROVISIONS

SECTION I - CONSTRUCTION GENERAL

1. SCOPE: The work covered in this section is outlined as a statement of construction requirements common to all work. Specific requirements for materials and installations are provided under the Technical Sections herewith. No claims for extras shall be made on account of items presumed to have been omitted from this section.

2. CONSTRUCTION RIGHT-OF-WAY:

2.1 The Contractor will be assigned construction areas or construction right-of-way limits for use in the prosecution of work under this contract, subject to the provisions of Clause 34 of the General Provisions. In the event that the Contractor finds it necessary to utilize for any purpose whatsoever, additional right-of-way, plant or construction area for the performance of this contract, he will be required to do the following:

(a) Where the additional required area is owned or controlled by the Government, the area may be assigned to the Contractor upon request, provided the area is not needed for other purposes and provided there is no additional cost to the Government. All necessary grading and drainage shall be done at the Contractor's expense.

(b) Where the additional required right-of-way is not owned or controlled by the Government, the Contractor shall make all necessary arrangements for the utilization of the required area at no additional ex-

pense to the Government. Such arrangements shall be subject to the approval of the Contracting Officer, and copies of agreements for use of such right-of-way shall be furnished the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from the use of the grounds.

3. PROTECTION OF EXISTING FACILITIES AND WORKS: The Contractor shall be responsible for the protection of work area from damage and upon completion of the work, shall leave existing works in a condition equal to that which existed when the work started. All work, storage of materials and construction plant shall be kept within the limits of the areas indicated. Existing utility lines aboveground that are shown on the locations, as well as utility lines constructed during excavation operations, are to be retained and shall be protected from damage during excavation and backfilling. If damaged, any damage shall be repaired by the Contractor at no expense to the Government. In the event that the Contractor damages any existing utility lines that are not shown, or the locations of which have not been made known to the Contractor, report thereof shall be made immediately to the Project Officer. If the Project Officer determines that repairs shall be made by the Contractor, such repairs will be ordered under "Changes" in General Provisions of the contract. The Contractor will be responsible for the protection of structures from any structural damage during construction operations. Road and surfaces shall be protected from damage by the work, or if damaged shall be repaired with equal materials. At all times the stor-

age and work area shall be kept in a condition conducive to safety of workmen and the public, and neat in appearance. Waste or surplus materials shall not be allowed to accumulate in the construction area.

4. UTILITIES, ROADS AND HEALTH FACILITIES:

4.1 Public Utilities: The Contractor shall make his own arrangements for use of public and private utilities as found available.

4.2 Health Facilities: The Contractor shall observe all state and local laws with regard to establishing sanitary facilities and for disposal of waste and refuse.

4.3 Barricades: At each location where safe operation requires the closing of roads and other arteries leading to the work under this contract, except at established entry and exits, the Contractor shall maintain a heavy plank barricade or other effective barrier during construction. Arrangements for closure of roads and other travel arteries shall be made by the Contractor with the responsible authorities and a copy of all such arrangements furnished to the Project Officer prior to closure. A satisfactory sign shall be placed on each barricade stating the artery is closed. The cost of barricades shall be at the expense of the Contractor.

4.4 Operations: When operations are being conducted near a U.S., state or county highway or when construction and hauling equipment is being used on or adjacent to such highway, the Contractor shall furnish signalmen and such warning signs as are necessary to provide adequate warning to the traveling public.

4.5 Utility Lines: Utility lines may be within the construction area. It shall be the responsibility of the Contractor to make his own arrangements for the alteration to or the removal of the utility or obstruction. The Contractor's operations shall conform to the requirements specified in paragraph SP-16. Copies of agreements made by the Contractor with any utility company shall be furnished to the Project Officer before construction begins, and such agreements shall clearly relieve the Government of any responsibility for damages.

5. CONSTRUCTION ROADS AND RAMPS:

5.1 Access Roads: Access roads are required, and as approved, shall be built by the Contractor for construction purposes. The grade and the width of such roads shall be sufficient for movement of all necessary personnel and equipment to and from the work sites. Existing roads traveled in part for such purpose shall be used so as to permit movement of traffic by others. Dust control, safety signs, sprinkling and other controls shall be maintained by the Contractor and shall be subject to review and approval prior to construction. Upon completion of work under this contract, roads shall be disposed of as directed by the Project Officer and the area left in a sightly condition.

5.2 Construction Roads: The Contractor shall construct roads as may be necessary for the conduct of work, without additional cost to the Government. The Contractor shall arrange his hauling operations so as to cause a minimum of interference with traffic and shall furnish flagmen and other facilities as required to avoid additional hazards to the pub-

lic. All roads shall be maintained in first-class condition during all periods of their use. Roads shall be sprinkled wherever, in the opinion of the Project Officer, control of dust is necessary to insure safe movement of construction traffic. Upon completion of work under this contract, roads shall be disposed of as directed.

5.3 Ramps: Ramps shall be provided and maintained for access of equipment into excavation areas. Locations, grades and width are subject to review and approval by the Project Officer prior to construction.

5.4 Traffic Control: The Contractor shall be responsible for the safe control of traffic on all roads used primarily for the work under these specifications and at their crossings with roads used by others. The Contractor shall, at his own expense, furnish all personnel, signal devices and signals necessary for the safe and efficient control of construction traffic on road systems used by the Contractor.

5.5 Joint Use of Transportation Facilities: The Contractor may use, jointly with others, existing access roads as approved. Unless otherwise specifically authorized in writing by the Project Officer, the Contractor will not be granted exclusive use of any road whether it be an existing road or one constructed by the Contractor.

6. DRAINAGE: The Contractor shall provide and maintain ditches, dikes and other facilities, within and adjacent to the work areas, to divert water from surface and subsurface flow away from work in place or under construction by this and other contracts, to prevent damage and interference. When it is necessary to drain water from the mine,

the flow during mine drainage shall not exceed 675 gallons per minute at any time; however, the total drainage shall be kept to a minimum amount as directed. Flow from the mine shall be directed into natural drainage leading to Davisson Run and shall not be allowed to flow on any part of the Sunnycroft Golf Course. The basis for design, location, type and size of drainage facilities are subject to review and approval by the Project Officer prior to construction

7. DISPOSITION OF CONSTRUCTION FACILITIES: All buildings and facilities constructed by the Contractor shall be maintained in satisfactory condition with strict observance of the rules of sanitation, safety and order as may be established by the Project Officer. Prior to final payment under the contract, all buildings and facilities constructed by the Contractor for his own use shall be removed from the site by the Contractor.

8. COORDINATION WITH OTHERS: Public and private authorities and other contractors on U.S. Government work will be working in assigned work areas during the life of this contract. The Contractor shall coordinate his work with others to avoid undue interference and shall conduct his operations, other than approved required access, within the limits of the assigned construction area or construction right-of-way limits.

9. ORDER OF WORK:

9.1 General: The purpose of this paragraph is to specify requirements for the orderly construction of work stated in paragraph SP-1.

The Contractor shall submit, for approval of the Project Officer prior to the start of work, the general outline of this method of procedure for prosecution of the work A suggested CPM Logic Network is attached as Exhibit A Work sites are designated and located on Drawing No. 101-1. Commencement of work is fifteen (15) calendar days after the date of receipt by the Contractor of notice to proceed with the entire contract

9.2 First Order of Work: The Contractor shall complete site layout, clearing of Work Site I and initial excavation work for initiating drainage from Opening No 1 within 4 working days after commencement of work

9.3 Second Order of Work: The Contractor shall complete building access road to Work Site IV, clearing of Work Sites II, III and IV and complete survey and final lay out of sites within 9 working days after commencement of work

9.4 Third Order of Work: The Contractor shall complete excavation of Work Sites III and IV and plug Openings 6, 5 and 4, as per Section 6 of the Technical Provisions, within 18 working days after commencement of work.

9.5 Fourth Order of Work: The Contractor shall complete excavation for Work Sites I and II and plug Openings 1, 2 and 3, as per Section 6 of the Technical Provisions, within 23 working days after commencement of work.

9.6 Fifth Order of Work: The Contractor shall complete the remainder of the contract work, remove construction plant facilities and clean up work sites and plant areas as the Fifth Order of Work within 25 working days after commencement of work.

10. PROGRESS CHARTS: Progress charts submitted in accordance with paragraph 35 of the General Provisions, shall indicate the required data for each of the bid items, including the schedule for the following principal features of work:

10.1 Access Roads:

- a. To Work Site No. IV

10.2 Clearing and Grubbing:

- a. Opening No. 1
- b. Opening No. 2
- c. Opening No. 3
- d. Opening No. 4
- e. Opening No. 5
- f. Opening No. 6

10.3 Excavation:

- a. Opening No. 6
- b. Opening No. 5
- c. Opening No. 4
- d. Opening No. 3
- e. Opening No. 2
- f. Opening No. 1

10.4 Mine Opening, Preparation:

- a. Opening No. 6
- b. Opening No. 5
- c. Opening No. 4

10.4 Mine Opening, Preparation (Continued):

d. Opening No. 3

e. Opening No. 2

f. Opening No. 1

10.5 Sealing:

a. Opening No. 6

b. Opening No. 5

c. Opening No. 4

d. Opening No. 3

e. Opening No. 2

f. Opening No. 1

10.6 Site Clean-up and Removal of Equipment:

a. Work Site No. I

b. Work Site No. II

c. Work Site No. III

d. Work Site No. IV

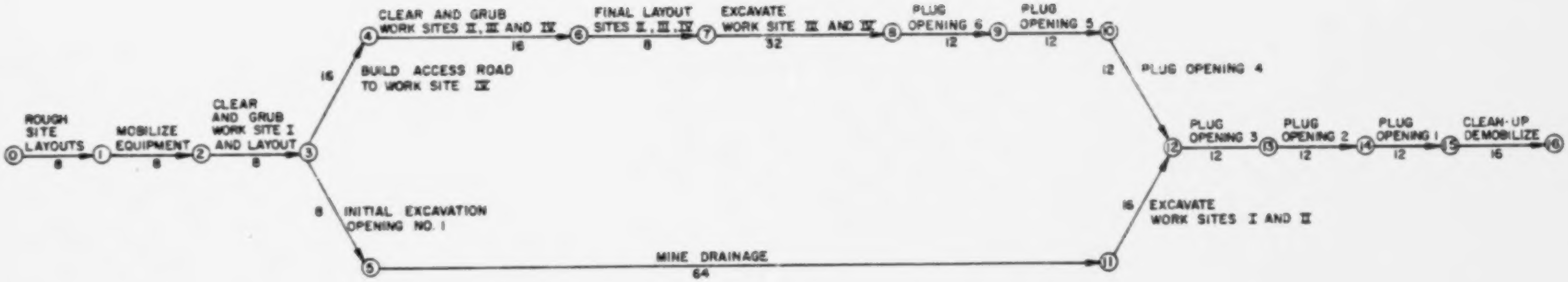
11. WATERWAY & DRAINAGE CROSSING: The Contractor shall construct approved crossings where access roads and construction roads cross waterways and/or drainage paths with adequate openings for drainage and stream flow. Structures for crossings shall be safe for all operating equipment and vehicles and shall be adequate for drainage and flow of the waterway. The structures constructed by the Contractor shall be left intact upon termination of the contract and shall become the property of the owner.

12. PROJECT SIGN: The Contractor shall provide a project sign con-

structed in accordance with Plate 1, page SP-20 of Part II - Special Provisions. The sign shall be erected at the project site by the Contractor at the location determined by the Project Officer. The project sign shall be left in place upon completion of the contract work and shall become the property of the Government. No separate payment will be made for the sign.

13. PURCHASE ORDERS: Two (2) copies of each purchase order issued by the Contractor or his subcontractors for materials and equipment to be incorporated into the project shall be furnished the Project Officer as soon as issued, and immediate notice shall be given him of the receipt of any material for the work, together with detailed lists of same. Each purchase order shall be clearly identified with the applicable contract number. At the option of the Contractor, those copies of purchase orders may or may not indicate the price of the article purchased.

14. PAYMENT: No separate payment will be made for work referred to in this section and all costs of operations therefor shall be considered a subsidiary obligation of the Contractor to be included in the applicable contract price or prices.



ROUGH SITE LAYOUTS
8
MOBILIZE EQUIPMENT
8
CLEAR AND GRUB WORK SITE I AND LAYOUT
8
CLEAR AND GRUB WORK SITES II, III AND IX
16
BUILD ACCESS ROAD TO WORK SITE IX
16
FINAL LAYOUT SITES II, III, IV
8
EXCAVATE WORK SITE III AND IX
32
PLUG OPENING 6
12
PLUG OPENING 5
12
PLUG OPENING 4
12
INITIAL EXCAVATION OPENING NO. 1
8
MINE DRAINAGE
64
EXCAVATE WORK SITES I AND II
16
PLUG OPENING 3
12
PLUG OPENING 2
12
PLUG OPENING 1
12
CLEAN-UP DEMOBILIZE
16
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

CPM LOGIC NETWORK PLAN

REMEDIAL CONSTRUCTION ON MINE NUMBERS 64-014, 64-016 AND 64-017
MONONGAHELA RIVER MINE DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN WEST VIRGINIA

EXHIBIT A

SECTION 2

CLEARING AND GRUBBING

1. SCOPE: This section covers all operations in connection with the clearing from designated areas of all trees, brush, logs, downed timber, other herbaceous vegetation, fences, buildings and other structures, all rubbish and the grubbing of stumps and roots and the disposal of all material resulting from the clearing and grubbing operations.

2. CLEARING: Clearing shall consist of the felling and satisfactory disposal of trees, vegetation and other material including downed timber, snags, brush, rubbish and fences within the area to be cleared. Such growth shall be cleared flush with the original ground surface by cutting, pulling, grubbing, or other approved methods. The areas to be cleared shall include those Work Sites as shown on the Mine Site Map and designated to be cleared in the Order of Work, Section 1 of the Technical Provisions, together with a 10-foot strip measured horizontally beyond and contiguous thereto of all excavated areas. Trees shall be felled in such a manner as to avoid damage to the existing structures and installations, and to those under construction as well as with due regard for the safety of employees and others.

3. GRUBBING: Grubbing shall consist of the removal and disposal of all stumps, roots larger than 1 inch in diameter, partially buried logs and other organic or metal debris not suitable for work site purposes, to a minimum depth of 3 inches below the graded surface. The areas to be grubbed shall include all areas to be cleared as specified above.

4. EXISTING ROADS, STRUCTURES AND IMPROVEMENTS: Existing Roads, structures and improvements not specified herein for removal, razing and disposition will be removed by others or left in place.

4.1 Transmission Lines: Operations adjacent to or under overhead transmission lines shall be accomplished in accordance with the provisions of the Safety Manual EM 385-1-1. These operations shall not be initiated until the utility company has been notified and operations coordinated therewith. Any temporary transmission line revisions, relocation and/or other work required shall be the responsibility of the Contractor. Payment for this work will be included in the lump sum price for "Clearing and Grubbing".

5. DISPOSAL OF MATERIAL: The material cleared and grubbed from the area shall be completely removed by transporting from the site or burned within the cleared areas, unless otherwise approved by the Project Officer. The disposal of material shall closely follow the clearing and grubbing process so that the materials will not become scattered over the site. In no case shall cleared and grubbed material be thrown or left in drainage area. Refuse to be burned shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer.

6. STRUCTURE CLEANING: The term (structure) shall include buildings or portions thereof, razed building formations, walks, cellars, fences, mine opening bracing, mine drainways, etc. Structures shall be removed or filled to the ground surface. Combustible materials obtained from

removal of structures shall be burned within the project area, but the time, location and manner of burning shall be subject to the approval of the Project Officer. Noncombustible materials shall be disposed of as directed by the Project Officer.

7. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for clearing and grubbing will be made, but payment for this work will be made at the contract lump sum price for "Clearing and Grubbing", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed, as shown on the drawings and as specified herein.

SECTION 3

EXCAVATION

1. SCOPE: This section covers all excavation on the project, except any which might be specified in other sections in addition to excavation specified herein.

2. CLASSIFICATION OF EXCAVATION: Excavation is defined as the removal of materials consisting of topsoil, clay, silt, sand, gravel, rock and boulders and similar materials that exist within the areas to be excavated. All excavation hereinafter specified shall be done on the unclassified basis, as provided for under the item designations of the contract. No consideration will be given to the nature of the materials and all excavation will be designated as excavation.

3. LINES AND GRADES AND TOLERANCES:

3.1 Lines and Grades: The location and dimensions of the proposed excavations are indicated on the drawings designated as 101-2, 101-3, 101-4 and 101-5. The Contractor will make initial cut at the location and to the dimensions shown in the drawings for the purpose of determining the exact location of the opening. Additional cuts may be made at the direction of the Project Officer until the opening is located.

Upon location of the mine opening, excavation will proceed to the dimensions shown on the drawing as related to the center line of the actual opening. However, the Government reserves the right to order increase or decrease of the depth, length, width, or slopes of

the excavation if conditions develop which require such revisions. In order to assure an adequate mine opening size and seal contact surface, excavation shall be extended as directed by the Project Officer. Side slopes at the bottom of the excavation shall be adjusted accordingly as directed to provide for the varying elevations of the bottom of excavation. The above reservations will not apply to revisions after work has been satisfactorily performed. Changes in quantities of materials shall not be made cause for claims for increased unit price except as provided in paragraph SP-6 of the Special Provisions.

3.2 Surface Tolerance: Grading will be in conformity with the lines and grades shown on the drawing with a maximum tolerance of six inches above or below the designated lines. However, the maximum tolerance in either direction may not extend over an area greater than 2,000 square feet. Excavation beyond the lines and grades shown, and as extended above, shall not be included in the excavation measured for payment except when the overexcavation is unavoidable because of the character of the material and is not due to fault or negligence of the Contractor.

4. UTILIZATION OF MATERIALS: Suitable material removed from the required excavations shall be used in the formations of embankments, fill, ramps, etc. Excavated material unsuitable for this work shall be transported to and disposed of in the designated waste areas.

5. METHODS AND EQUIPMENT:

5.1 Excavation may be carried on by any approved method and by the

use of any approved equipment adapted to the work and which will meet the operational schedule requirements. Dry excavation operations shall be used in all areas. Equipment shall conform to the safety provisions of SP-16, Special Safety Requirements.

6. SLIDES: In the event a slide occurs which interferes with the construction, the Contractor will excavate the slide areas to stable slopes as directed. Material excavated from slide areas shall be disposed of in accordance with the specific utilization of the particular type of material involved.

7. REMOVAL OF WATER: The Contractor shall construct and maintain all necessary channels, flumes and/or other temporary diversion and protective works, shall furnish all material required therefor, and shall furnish, install, maintain and operate all walls, sandpoints, pumping and other equipment for dewatering and for maintaining work site free from water as required for construction of mine remedial work.

8. WASTE AREAS: Material placed in waste area shall be graded to drain.

9. MEASUREMENT:

9.1 Excavation: The unit of measurement for excavation shall be the cubic yard. Initial surveys will be made of existing ground surface of all excavation areas prior to work under this contract. Measurement of excavation will include the total volume of material computed by the average end area method, between the surfaces established by the initial survey and the surface of completed excavation as approved. The measurement will not include the yardage of material excavated without author-

ization beyond the normal slope lines or the yardage of material used for purposes other than those shown or directed. The measurement of excavation will not include water or other liquid, but will include mud, muck, or similar semi-solid material which had not been disturbed by the Contractor and which cannot be drained away, and overbreakage due to slides which were not caused by the carelessness of the Contractor; and authorized excavation of unsuitable materials.

10. PAYMENT:

10.1 Excavation: The yardage of excavation measured as specified hereinbefore will be paid for at the contract unit price per cubic yard for "Excavation", which payment will constitute full compensation for all labor, equipment, tools and supplies necessary to complete all items of the work including excavating, hauling and the prescribed disposal of unsuitable material.

SECTION 4

EXPENDABLE GROUT RETAINER PLUG

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the manufacture, assembly, transporting, placing and filling of the Expendable Grout Retainers in the specified mine openings to effect the desired plug.

2. MANUFACTURE OF RETAINERS:

2.1 Materials of Construction: The Expendable Grout Retainer will be constructed as shown in Drawing No. 101-7. The fabric used shall be a cotton material, having a plain weave with a thread count of 26 x 20 threads per inch, a tensile strength of 175 psi and a weight of 10 ounces per square yard. The thread shall be cotton with a tensile strength of 450 psi. Webbing material shall be cotton with a tensile strength of 500 pounds per inch of width.

2.2 Method of Construction: The Expendable Grout Retainer shall be constructed using seams and stitched areas containing 9 stitches per inch. The seam as per Detail A on Drawing No. 101-7 shall be a flat and folded seam made using a flat stitch, and the seam shown in Detail B shall be a lapped seam made with a triple chain stitch, the chain side of the stitch being located on the inside of the retainer. The webbing shall be 4" in width with length as indicated on the drawing. It shall be equipped with 1/2" brass eyelets located as shown on Drawing No. 101-7.

2.3 Sizes: The sizes for Expendable Grout Retainers will vary according to the location of each retainer in the completed plug for each

opening as indicated herein and shown on Drawing No. 101-7.

Bottom retainer shall have a nominal length of 20 feet, a nominal width of 12 feet, and a height of 2-1/2 feet.

Second retainer (placed on top of bottom retainer) shall have a nominal length of 16 feet, a nominal width of 12 feet and a height of 2-1/2 feet.

The third (or top) retainer shall have a nominal length of 13 feet, a nominal width of 12 feet and a height of 2 feet.

Should the mine opening to be plugged exceed seven (7) feet in height, a fourth retainer may be necessary. If so, this fourth retainer shall have a nominal length of 10 feet, a nominal width of 12 feet and a height of one and one-half (1-1/2) feet.

In the event that the mine opening width exceeds twelve (12) feet, the nominal width of the retainers shall be increased accordingly.

3. ACCESSORIES FOR RETAINERS:

3.1 Monitoring, Drain and Fill Pipes: All pipes shall conform to the requirements for Type II Polyethylene Plastic Pipe as set forth in Commercial Standard CS255-63 as developed under the procedures of the Commodity Standards Division issued by the U.S. Department of Commerce. Drain pipe will be installed in the bottom bag only. Drain pipe and fill pipes shall be of 2" nominal diameter (2.067" ID) with a wall thicknexx of .180" and shall have a maximum working pressure of 100 psi at 73.4° F. Monitoring pipes shall be of 1" nominal diameter (1.049"ID) with a wall thickness of .091" and shall have a maximum working pressure

of 100 psi at 73.4°F. The length for each pipe shall be as shown on Drawing No. 101-8.

3.2 Pipe Adapters: The monitoring pipes shall be equipped with 1" NPT male threaded adapters made of polyallomer material. The drain pipe and fill pipes shall be equipped with 2" NPT male threaded adapters made of polyallomer material.

3.3 Adapter Clamps: Clamps shall be those normally used on 1" and 2" sizes of flexible plastic pipe, such as worm and sector type, made of 18-8 stainless steel.

3.4 Retainer Connector Clamps: Clamps shall be plastic pipe clamps of the worm and sector type, made of 18-8 stainless steel. The size shall be 1-1/2" nominal diameter for the 1" monitoring pipes and 2-1/2" size for 2" drain pipe and fill pipes.

3.5 Retrievable Monitoring Valve: Valve shall be 1", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.6 Retrievable Drain Valve: Drain valve shall be 2", 125# WOG, ball type, with NPT female thread, constructed of Polyprophylene material.

3.7 Retrievable Fill Valve: Fill valve shall be 2" bronze gate type with NPT female thread, 125# WOG rating.

4. EQUIPMENT REQUIRED:

4.1 Pumping Equipment: Pumping equipment shall be capable of pumping the mixed grout slurry at rates of from 0 to 50 cubic yards per hour. injecting same into retainer against a maximum pressure of 20 psi through a nominal 2" line.

4.2 Monitoring Equipment: The monitoring equipment will consist of instrumentation capable of monitoring and recording fluid pressure in the retainer over a range of from 0 to 25 psi.

5. GROUTING SLURRY: The grouting slurry required to fill each retainer will be mixed as specified in Section 5, paragraph 3 of the Technical Provisions.

6. PLACEMENT OF GROUT RETAINERS IN OPENINGS: The Contractor shall place and fill the required number of Expendable Grout Retainers in each designated mine opening to effect a watertight seal. The retainers will be placed in accordance with Drawing No. 101-6 so that the bottom retainer is flush with or inside the mine opening as excavated, and in accordance with the following specifications:

6.1 Bottom Retainer: The drain pipe shall be placed through the retainer and the fill pipe placed inside as shown on Drawing No. 101-8 and securely clamped to the canvas spout, using the clamps listed in paragraph 3 above. The adapters shall be placed on the outside end of the pipes and proper valves affixed thereto as specified.

After the opening has been properly prepared as specified in appropriate sections of the Technical Provisions, the retainer shall be pushed or placed in the mine opening, using the drain pipe as an aid in placement. The retainer will be placed in such a manner as to subject it to a minimum amount of distortion and localized stress when filled to the specified height with grouting slurry. Care should be taken that the pressure exerted by the grouting pump will not exceed 5 psig. Axial

movement of the retainer as it is being filled, due to slope of the mine floor, shall be controlled by the Contractor in a manner which will prevent damage to the retainer and allow it to cover the full retainer area on the mine floor. Any deviations from these specifications and drawings desired by the Contractor because of mine opening conditions or water flow from opening shall be presented to the Project Officer for approval prior to initiation of work.

When placed in the mine opening, the retainer shall include the drain pipe or monitoring pipe, fill pipe and other accessories as shown on Drawing No. 101-8.

6.2 Subsequent Retainers: The additional retainers necessary to plug the opening will be placed in successive order on the bottom retainer after the grout slurry has set as indicated by tests required under paragraph 3.4 of Section 5 of the Technical Provisions. Each successive retainer shall be placed only after the previously placed retainer has taken its required set and has been properly prepared for the succeeding retainer. Placement will follow the procedure for the bottom retainer as specified above. The top retainer should be filled to the extent necessary to cause contact with and bonding to the mine opening roof. The contact will be maintained by closing the valve on the fill line when the instrumentation indicates maximum pressure of 5 psi (gage) has been obtained.

7. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this Section and all costs of operation therefor

shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for plugging the mine openings.

SECTION 5

GROUTING MATERIALS

1. SCOPE: The work covered by this section shall consist of furnishing all material and equipment, and performing all labor for transporting, blending and mixing the materials as specified herein.

2. MATERIALS: The materials used in mixing the slurries shall conform to the following specifications:

2.1 Cement:

Portland Type, conforming to ASTM Type I specifications, ASTM C150-66.

2.2 Fly Ash:

When used as an admixture, shall conform to "Specifications for Fly Ash for Use as an Admixture in Portland Cement Concrete", ASTM C350.

2.3 Gypsum:

Hemihydrate form conforming to specifications as set forth in ASTM C59-50, Gypsum Molding Plaster.

2.4 Lignin Retarder:

A Calcium-Sodium Lignosulfonate which acts as a cement retarder and a dispersant of particles in a slurry composed of water and finely ground materials. Approved materials are:

(1) Lignox - Distributed by Baroid Div. of National Lead Co.
Houston, Texas

(2) HR-7 - Distributed by Halliburton Services, Weston,
West Virginia

(3) Kembreak-Distributed by Milwhite Company, Houston Texas

(4) Any other equal material approved by the Project Officer

2.5 Water:

Mixing water for cement slurry shall be fresh, clean and potable. Nonpotable water may be used only if it produces sample cubes having 7 and 28 day strengths equal to the strength of similar specimens made with clean, potable water, when tested in accordance with "Method of Test for Compressive Strength of Hydraulic Cement Mortars" (ASTM C 109).

3. EXPENDABLE GROUT RETAINER SLURRY:

3.1 Preliminary Mixing: Samples of materials to be used in the slurry, as listed in paragraph 2, will be obtained by the Contractor in accordance with Section 1, API RP 10B, "Recommended Practice for Testing Oil Well Cement and Cement Additives", Fifteenth Edition. Scales shall meet specifications set forth in Section 3, API RP 10B.

The proportions of materials to be mixed will be 20% Cement, 40% Fly Ash, 40% Gypsum and 0.6% Lignin Retarder by weight, with water added equal to 41% of the weight of the dry materials, excluding retarder. Water and curing temperature should approximate that expected on job site.

Mixing device used in laboratory for mixing sample can be any type of mixer that can intimately mix the ingredients with the mixing water. If a high speed mixer is used, such as Waring Blendor, mixing time should be 35 seconds. The mixing time for a slow speed mixer shall be two minutes.

3.2 Testing of Preliminary Mix: Slurry mixed as in paragraph 3.1 shall be tested for thickening time in accordance with Appendix B, "Atmospheric Pressure Consistometer", API RP 10B, or by similar method approved by the Project Officer. The slurry shall have a minimum thickening time of 1 hour after mixing, and shall not have a viscosity over 25 poise. Sufficient samples of the slurry shall be placed in molds conforming to ASTM C 109 to permit compressive strength tests on nine sample cubes. Three cubes shall be tested 2 hours after mixing using a hydraulic type testing machine in accordance with ASTM C 109, and shall exhibit a compressive strength in excess of 10 psi. Tests shall be made of three specimens at 24 hours with a minimum compressive strength requirement of 100 psi, and at 72 hours with a minimum required strength of 200 psi. If the tests indicate that the material does not meet these specified requirements, the amount of retarder can be adjusted to obtain a slurry which will meet the specifications. This situation can be caused by the variation in gypsum from one area to another. The substitute slurry which does meet the specifications should then be approved by the Project Officer before it is used on the work site.

3.3 Site Slurry Mixing: The Contractor shall mix the approved slurry on the work site in the following proportions:

MATERIALS PER CUBIC YARD OF SLURRY

Pounds				Gallons
Cement	Fly Ash	Gypsum	Retarder	Water
430	860	860	18.2*	105

*Based on 0.6% as specified. If substitute is approved, this value will change accordingly.

Mixing shall be accomplished in a continuous manner so that a quantity of 50 cubic yards per hour shall be thoroughly mixed and subsequently placed in the Expendable Grout Retainer as specified in Section 4 of the Technical Provisions.

3.4 Site Slurry Testing: Samples shall be taken from the discharge side of the pump which is placing the slurry in the Expendable Grout Retainer during the last part of the filling operation Samples shall be taken in a small container, such as a disposable cup, and in molds conforming to ASTM C 109.

Sample in cup shall be tested one hour after filling operation using a sharp instrument, such as a nail or knife, to determine if material has set If material is still fluid, tests shall be made each 15 minutes thereafter until set When the test indicates that the material is set, the retainer will then have sufficient strength to permit a second retainer to be placed on it for continuation of the work.

If the material does not set within three (3) hours after start of mixing, the job will be stopped and the retainer removed from the hole. A new batch will then be prepared and tested. Approved tests must be obtained before job proceeds

Samples in mold shall be tested in accordance with ASTM C 109 for compressive strength of three specimens each at 24 hours and at 72 hours. Tests shall confirm preliminary tests and specimens shall exhibit a minimum average strength of 100 psi at 24 hours and 200 psi at 72 hours Results shall be reported on the daily work report.

If the tests for compressive strength fail to meet the specified minimum strengths, work shall be stopped immediately. No further work shall be done until an approved slurry is obtained. Cores from the retainer in place shall be obtained by the Contractor and test samples from the core shall be tested. If these samples are satisfactory, the work may resume. If tests indicate the material still does not meet the specified strength, the plug will remain in place but the materials will not be considered to constitute basis for payment.

4. MEASUREMENT AND PAYMENT: No separate payment will be made for any of the work covered by this section and all costs of operation therefor shall be considered a subsidiary obligation of the Contractor to be included in the unit price payment to be made under the applicable sections for conducting the slurry placement.

SECTION 6

PLUGGING OPENINGS 1, 2, 3, 4, 5 & 6

1. SCOPE: The work covered by this section consists of furnishing all material and equipment, and performing all labor for the plugging of the specified openings in the mine complex as shown on the drawings and specifications.

2. EXCAVATION OF OPENING: The excavation of the opening will be done in accordance with the drawings and specifications included in Section 3 of the Technical Provisions.

3. PREPARATION OF OPENING: The opening will be prepared for placement of the sealing plug by first removing all loose rocks and debris from the drift for a depth of twenty five (25) feet from the excavated opening face. Debris is defined as any foreign material in this area which would impair proper placement of the retainer. Then the walls, roof and floor shall be scoured and cleaned for a depth of 25 feet into the drift tunnel by hydraulically jetting the area with fresh water. Jetting shall be accomplished with a 3/4" hose and 3/8" exit nozzle with a minimum water pressure of 75 psi. Any substitute used must be approved by the Project Officer prior to use.

4. PLACEMENT OF PLUG: The openings will be sealed by the use of Expendable Grout Retainers as specified in Section 4 of the Technical Provisions. Grout materials to be used are specified in Section 5, paragraph 3.3 of the Technical Provisions.

The slurry to be used in filling the retainers should be sprayed over the floor and lower three feet (3') of the walls in the area where the retainer is to be placed just prior to placement of the bottom retainer. This procedure should be repeated when installing subsequent retainers in the opening.

5. FINAL PLUGGING: When all work has been finished on the project, prior to demobilization the Contractor will place a cement plug approximately two feet (2') in length in each pipe protruding from the retainers. After the cement has set, the valves will be removed and remain the property of the Contractor.

6. MEASUREMENT AND PAYMENT:

6.1 General: The Contract prices for the various items of work and materials, as described in paragraphs 6.2 and 6.3, shall constitute full compensation for furnishing all equipment, labor and materials incidental to the work.

6.2 Preparation of Opening: No measurement for purposes of payment for removal of debris from the drift or jetting of tunnel floor, walls and roof will be made, but payment for this work will be made at the contract lump sum price for "Preparation of Opening", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

6.3 Placement of Plug: The unit of measurement for placement of Expendable Grout Retainers will be the cubic foot of slurry placed around the retainer or in the retainer, as determined by the yield of slurry based on the pounds of cement used in accordance with specified mix in Section 5 of the Technical Provisions. No payment will be made for slurry wasted through negligence of Contractor.

SECTION 7

MONITORING AND SAMPLING

1. SCOPE: This section covers all operations in connection with monitoring the flow of water from the specified mine openings and sampling of water to be accomplished by the Contractor.

2. MONITORING: The flow of water issuing from each mine site opening specified herein shall be measured prior to plugging the opening. Any flow remaining in the vicinity of the plugged opening shall be measured following the remedial work. These measurements shall be obtained by the Contractor and included in his daily work report to the Project Officer on days when measurements are taken.

3. SAMPLING:

3.1 Water Sampling: Samples of mine water discharge, impounded mine water and surface water flows in the stripped areas of the work shall be obtained by the Contractor. Samples shall be obtained prior to initiation of work, prior to sealing of opening and after sealing of opening, should any leakage occur. Samples shall be furnished to FWPCA laboratory at Wheeling, West Virginia as directed by the Project Officer.

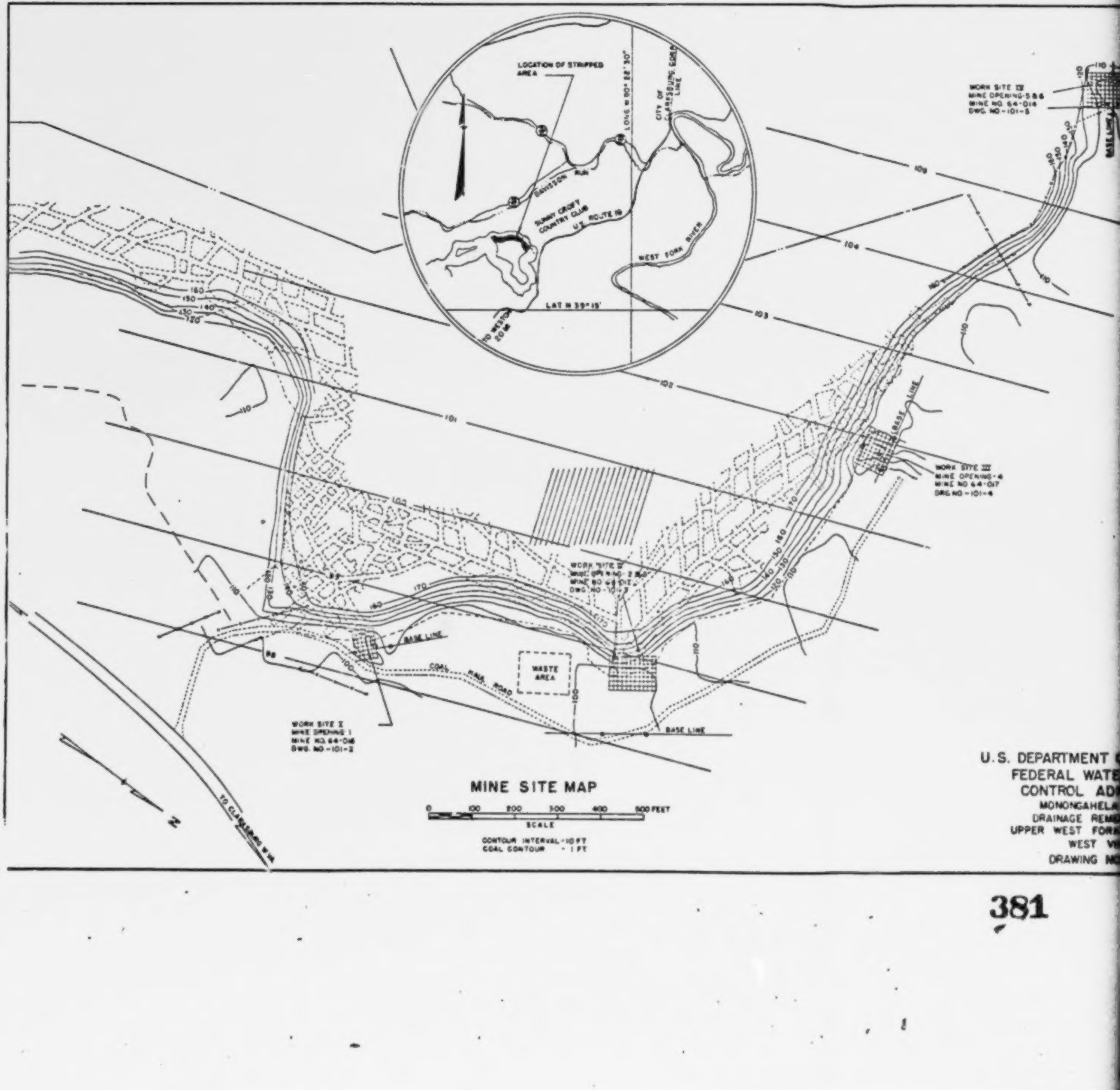
4. MEASUREMENT AND PAYMENT: No measurement for purposes of payment for monitoring and sampling will be made, but payment for this work will be made at the contract lump sum price for "Monitoring and Sampling", which price shall constitute full compensation for furnishing all labor, equipment and materials and performing all operations necessary to accomplish the work as directed and specified herein.

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA

PLANS FOR REMEDIAL CONSTRUCTION
ON
MINE NO. 64-014, 64-016 & 64-017

DRAWINGS

TITLE	DRAWING NO.
VICINITY AND MINE SITE MAP	101-1
WORK SITE I - OPENING NO. 1	101-2
WORK SITE II - OPENINGS NO. 2 & 3	101-3
WORK SITE III - OPENING NO. 4	101-4
WORK SITE IV - OPENINGS NO. 5 & 6	101-5
MINE PLUG - EXPENDABLE GROUT RETAINER	101-6
DIMENSIONAL SPECIFICATIONS - EXPENDABLE GROUT RETAINER	101-7
ASSEMBLY - EXPENDABLE GROUT RETAINER	101-8


LOCATION OF STRIPPED AREA
LONG W 80° 22' 30"
CITY OF CLARKSBURG CORP. LINE
DAVISSON RUN
SUNNY CROFT COUNTRY CLUB
U.S. ROUTE 19
WEST FORK RIVER
LAT N 39° 15'
TO WESTON 20 M
WORK SITE IV
MINE OPENING-5 & 6
MINE NO. 64-014
DWG. NO-101-5
WORK SITE III
MINE OPENING-4
MINE NO 64-017
DWG NO-101-4
WORK SITE II
MINE OPENING-2 & 3
MINE NO 64-012
DWG NO-101-3
WORK SITE I
MINE OPENING-1
MINE NO. 64-016
DWG. NO-101-2
BASE LINE
COAL MINE ROAD
WASTE AREA
TO CLARKSBURG
N
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104
103
102
101
100
110
120
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140
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170
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500 FEET
SCALE
CONTOUR INTERVAL-10 FT
COAL CONTOUR - 1 FT

MINE SITE MAP

U.S. DEPARTMENT
FEDERAL WATE
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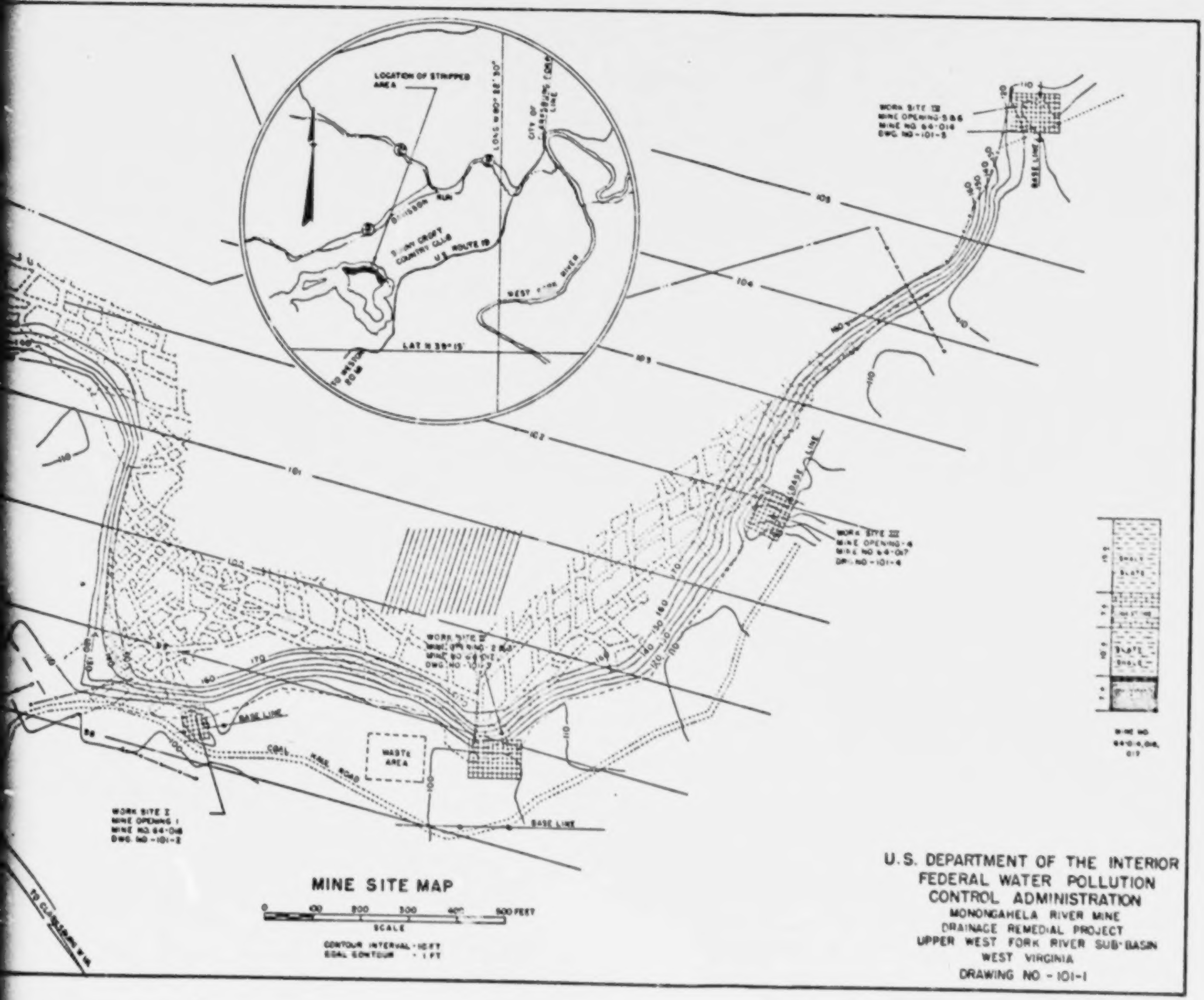
LOCATION OF STRIPPED AREA
LONG W 80° 22' 30"
CITY OF CLARKSBURG CORP LINE
SIMPSON RUN
SUNNY CROFT COUNTRY CLUB
U.S. ROUTE 19
WEST FORK RIVER
LAT N 39° 15'
TO WESTON 20 MI
WORK SITE IV
MINE OPENING 5 & 6
MINE NO 64-014
DWG. NO - 101-5
BASE LINE
WORK SITE III
MINE OPENING - 4
MINE NO 64-017
DWG NO - 101-4
WORK SITE II
MINE OPENING - 2 & 3
MINE NO 64-017
DWG. NO - 101-3
WORK SITE I
MINE OPENING 1
MINE NO. 64-016
DWG. NO - 101-2
COAL HAUL ROAD
WASTE AREA
BASE LINE
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SHALE
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MINE NO 64-014, 016, 017
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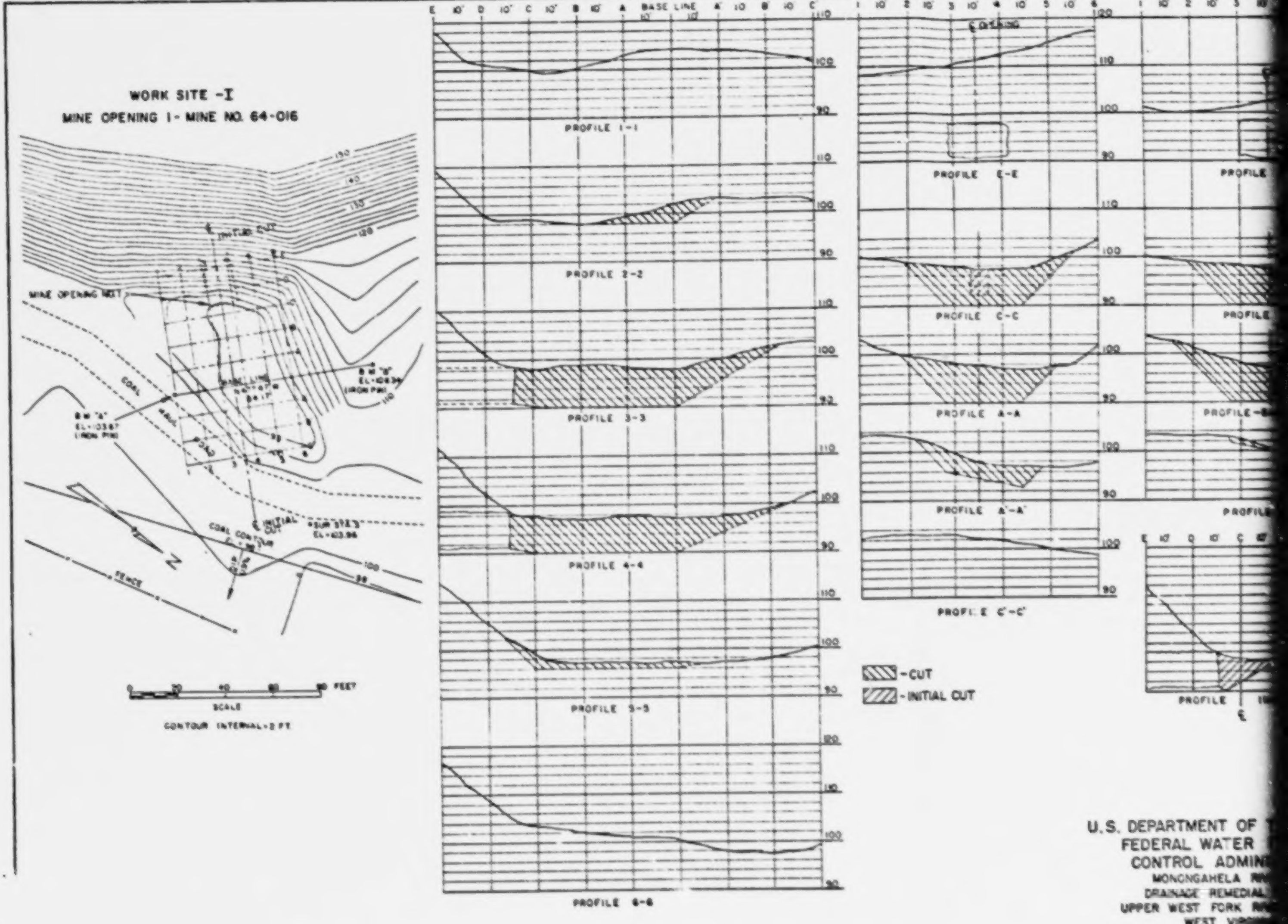
SCALE
CONTOUR INTERVAL - 10 FT
COAL CONTOUR - 1 FT

MINE SITE MAP

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO - 101-1


WORK SITE -I
MINE OPENING 1 - MINE NO. 64-016
MINE OPENING NO. 1
INITIAL CUT
BASE LINE
B M "A"
EL - 103.87
(IRON PIN)
B M "B"
EL - 108.34
(IRON PIN)
COAL
HAUL
ROAD
COAL CONTOUR
INITIAL CUT
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SCALE
CONTOUR INTERVAL - 2 FT.
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BASE LINE
A'
B'
C
PROFILE 1-1
PROFILE 2-2
PROFILE 3-3
PROFILE 4-4
PROFILE 5-5
PROFILE 6-6
PROFILE E-E
PROFILE C-C
PROFILE A-A
PROFILE A'-A'
PROFILE C'-C'
PROFILE
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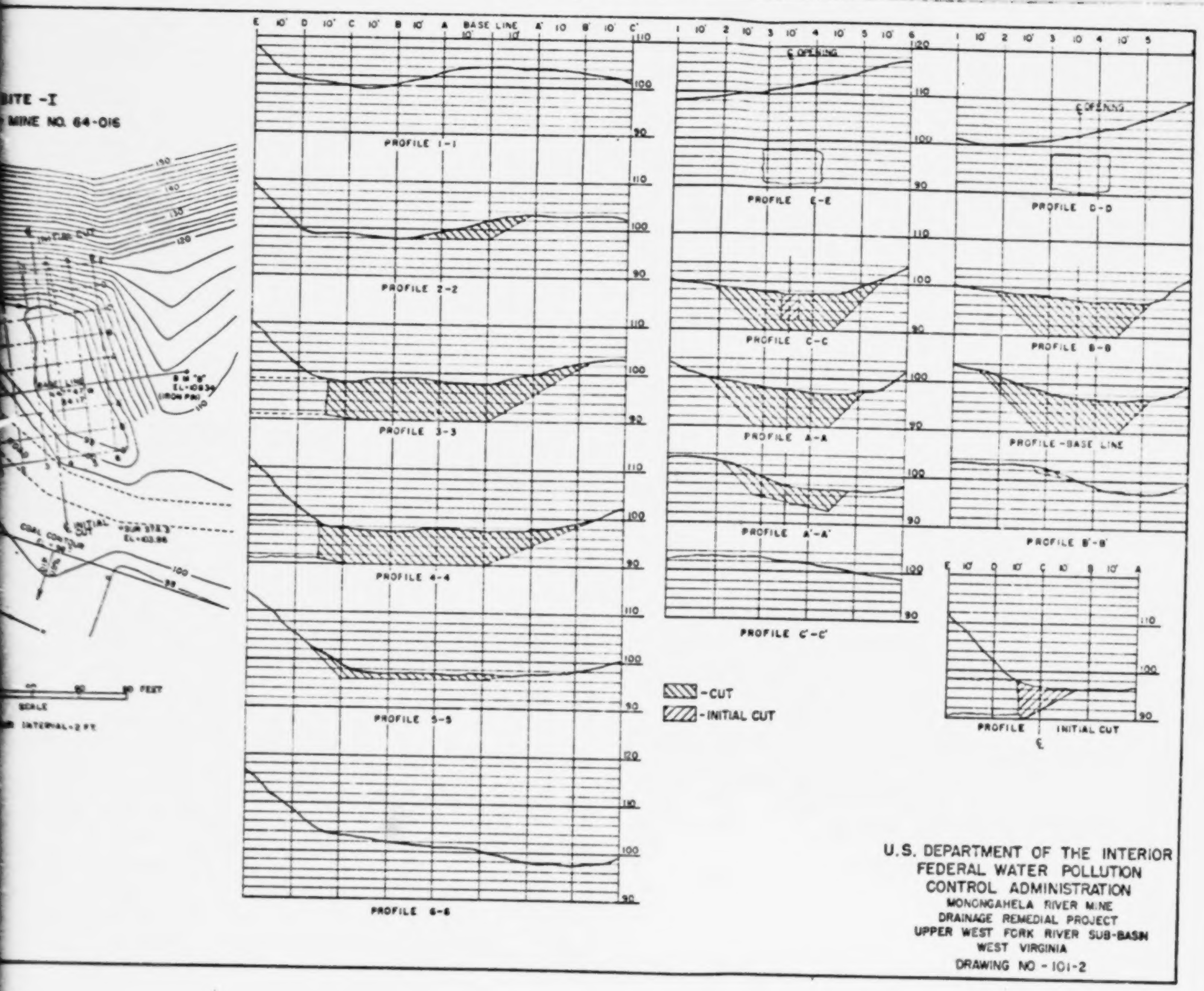
90
▧ - CUT
▨ - INITIAL CUT

U.S. DEPARTMENT OF
FEDERAL WATER
CONTROL ADMIN
MONONGAHELA RIV
DRAINAGE REMEDIAL
UPPER WEST FORK RIV
WEST VIRG
DRAWING NO. -


SITE -I
MINE NO. 64-016
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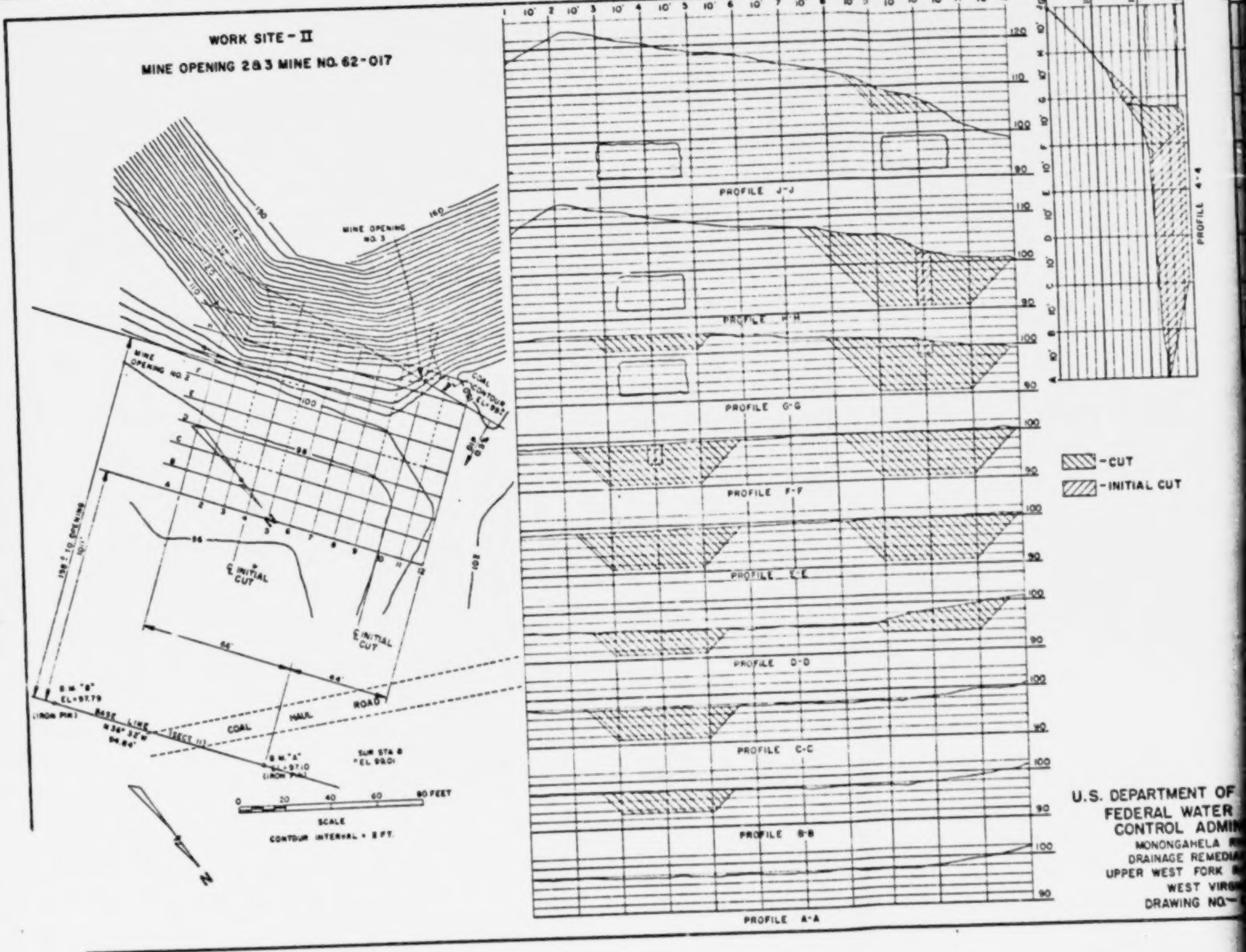
INITIAL CUT
BASE LINE
B M "B"
EL-103.34
(IRON PIN)
INITIAL CUT
COAL CONTOUR
SCALE
FEET
INTERVAL-2 FT.
E 10' D 10' C 10' B 10' A BASE LINE 10' 10' A' 10 B' 10' C'
1 10' 2 10' 3 10' 4 10' 5 10' 6
OPENING
PROFILE 1-1
PROFILE 2-2
PROFILE 3-3
PROFILE 4-4
PROFILE 5-5
PROFILE 6-6
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE -BASE LINE
PROFILE A'-A'
PROFILE B'-B'
PROFILE C'-C'
PROFILE
INITIAL CUT
▧ -CUT
▨ -INITIAL CUT
120
110
100
90

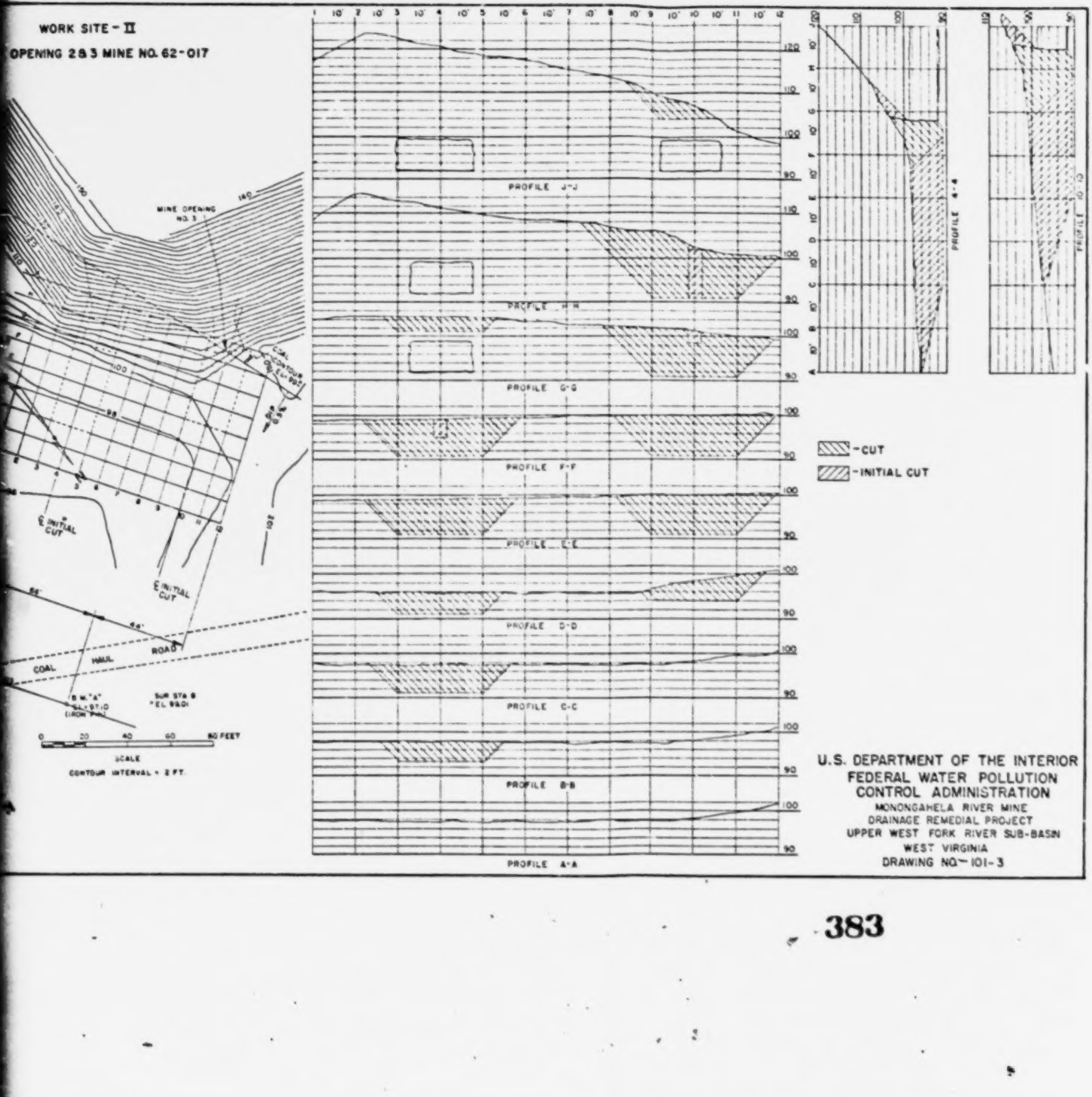
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO - 101-2

WORK SITE - II

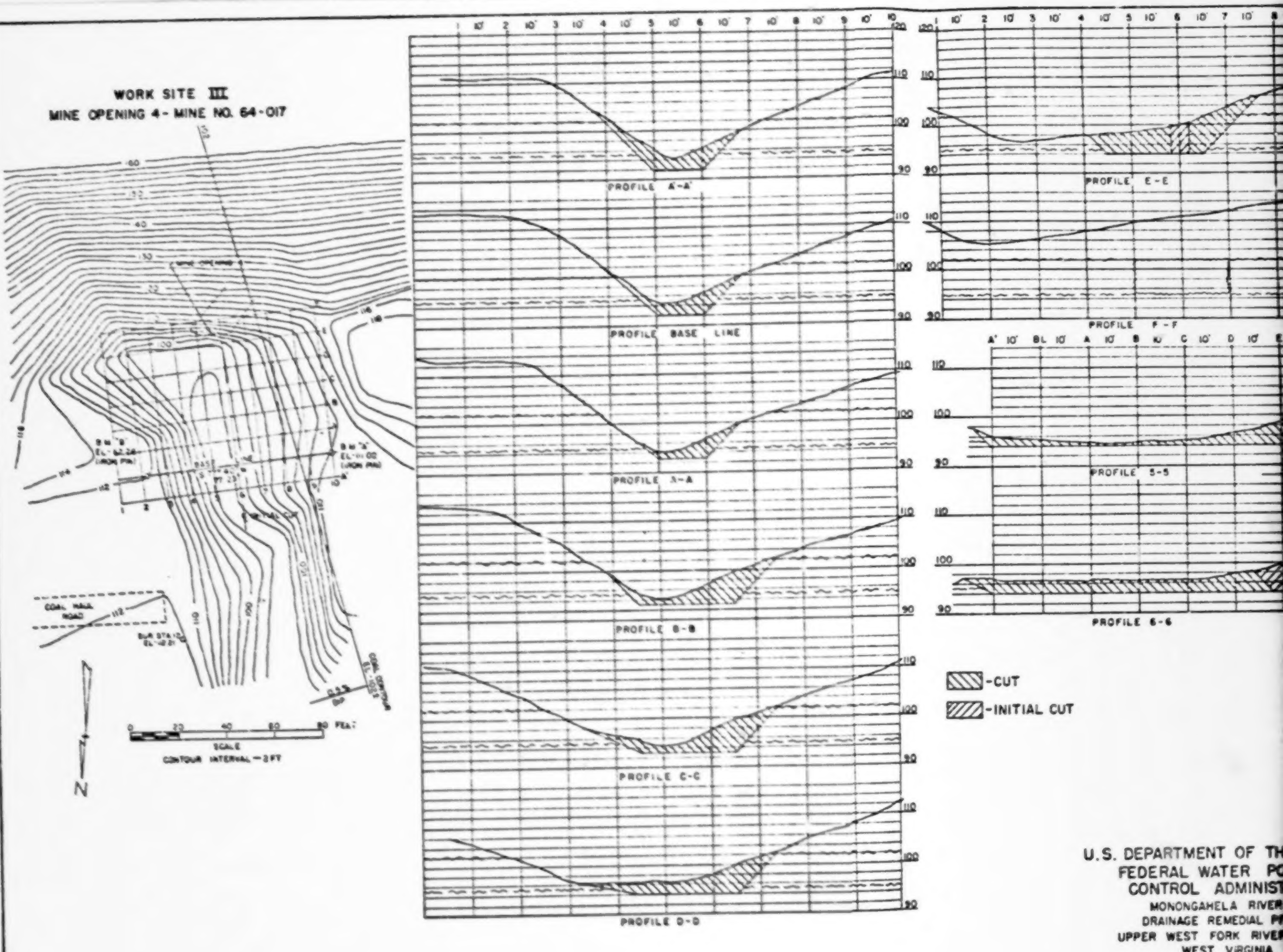
MINE OPENING 2 & 3 MINE NO. 62-017


MINE OPENING NO. 3
MINE OPENING NO. 2
COAL CONTOUR EL.-99.7
INITIAL CUT
INITIAL CUT
COAL HAUL ROAD
B.M. "B" EL.-97.79 (IRON PIN)
BASE LINE N 36° 32' W 94.86'
B.M. "A" EL.-97.10 (IRON PIN)
SUR. STA. B EL. 99.01
0 20 40 60 80 FEET
SCALE
CONTOUR INTERVAL = 2 FT.
N
PROFILE J-J
PROFILE H-H
PROFILE G-G
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 4-4
▧ - CUT
▨ - INITIAL CUT

U.S. DEPARTMENT OF
FEDERAL WATER
CONTROL ADMI
MONONGAHELA
DRAINAGE REMEDIA
UPPER WEST FORK
WEST VIR
DRAWING NO.


WORK SITE - II
OPENING 2 & 3 MINE NO. 62-017
MINE OPENING NO. 3
COAL CONTOUR
℄ INITIAL CUT
℄ INITIAL CUT
COAL HAUL ROAD
B.M. "A"
SUR STA 8
SCALE
0 20 40 60 80 FEET
CONTOUR INTERVAL = 2 FT.
PROFILE J-J
PROFILE H-H
PROFILE G-G
PROFILE F-F
PROFILE E-E
PROFILE D-D
PROFILE C-C
PROFILE B-B
PROFILE A-A
PROFILE 4-4
PROFILE 10-10
120
110
100
90
▧ - CUT
▨ - INITIAL CUT

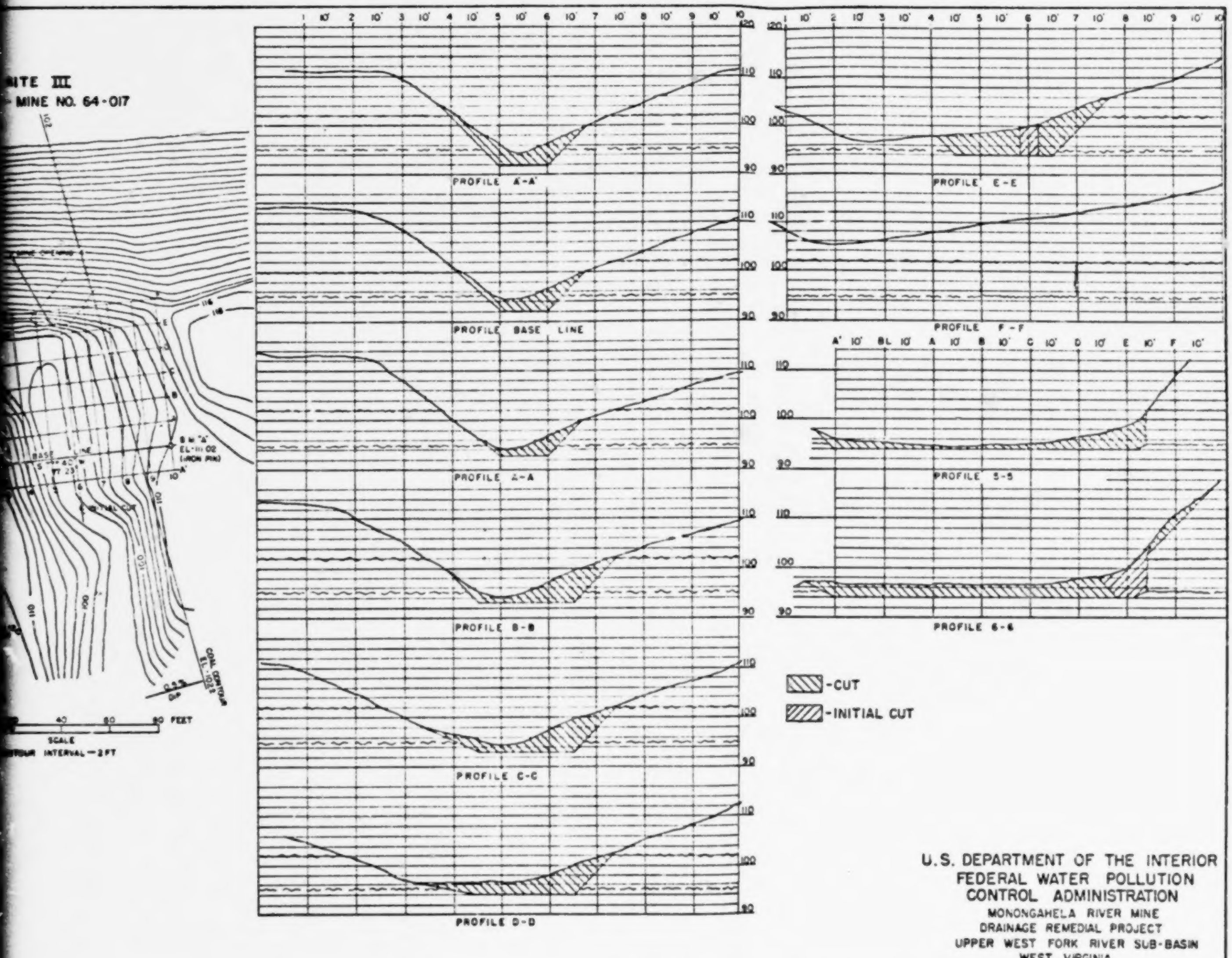
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.- 101-3



WORK SITE III
MINE OPENING 4 - MINE NO. 64-017

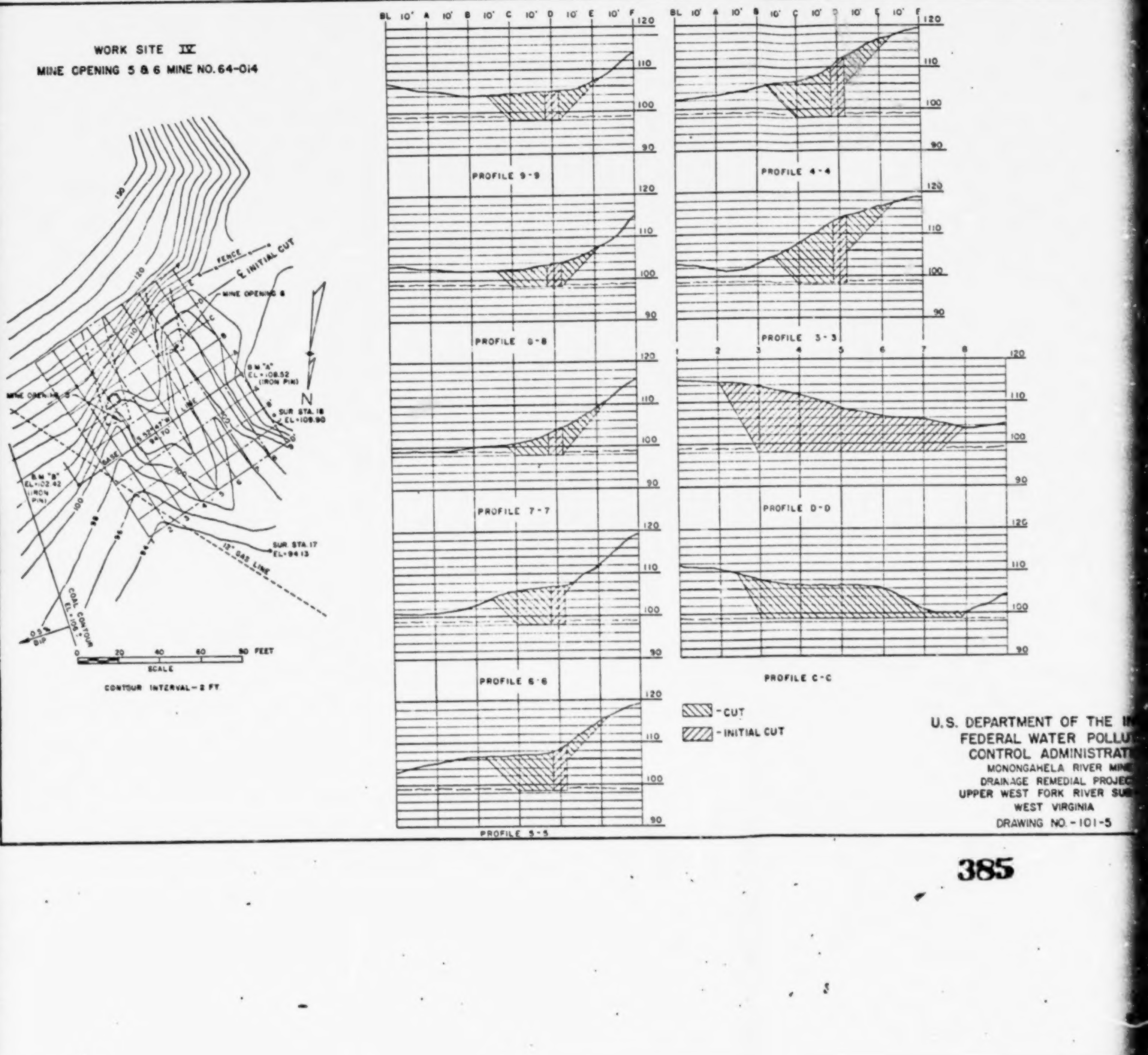
MINE OPENING
B.M. "B" EL-112.24 (IRON PIN)
B.M. "A" EL-111.02 (IRON PIN)
BASE
INITIAL CUT
COAL HAUL ROAD
COAL OUTCROP
DIP
SCALE
0 20 40 60 80 FEET
CONTOUR INTERVAL — 2 FT
N
PROFILE A'-A'
PROFILE BASE LINE
PROFILE A-A
PROFILE B-B
PROFILE C-C
PROFILE D-D
PROFILE E-E
PROFILE F-F
PROFILE 5-5
PROFILE 6-6
A' 10' BL 10' A 10' B 10' C 10' D 10' E
120
110
100
90
▧-CUT
▨-INITIAL CUT

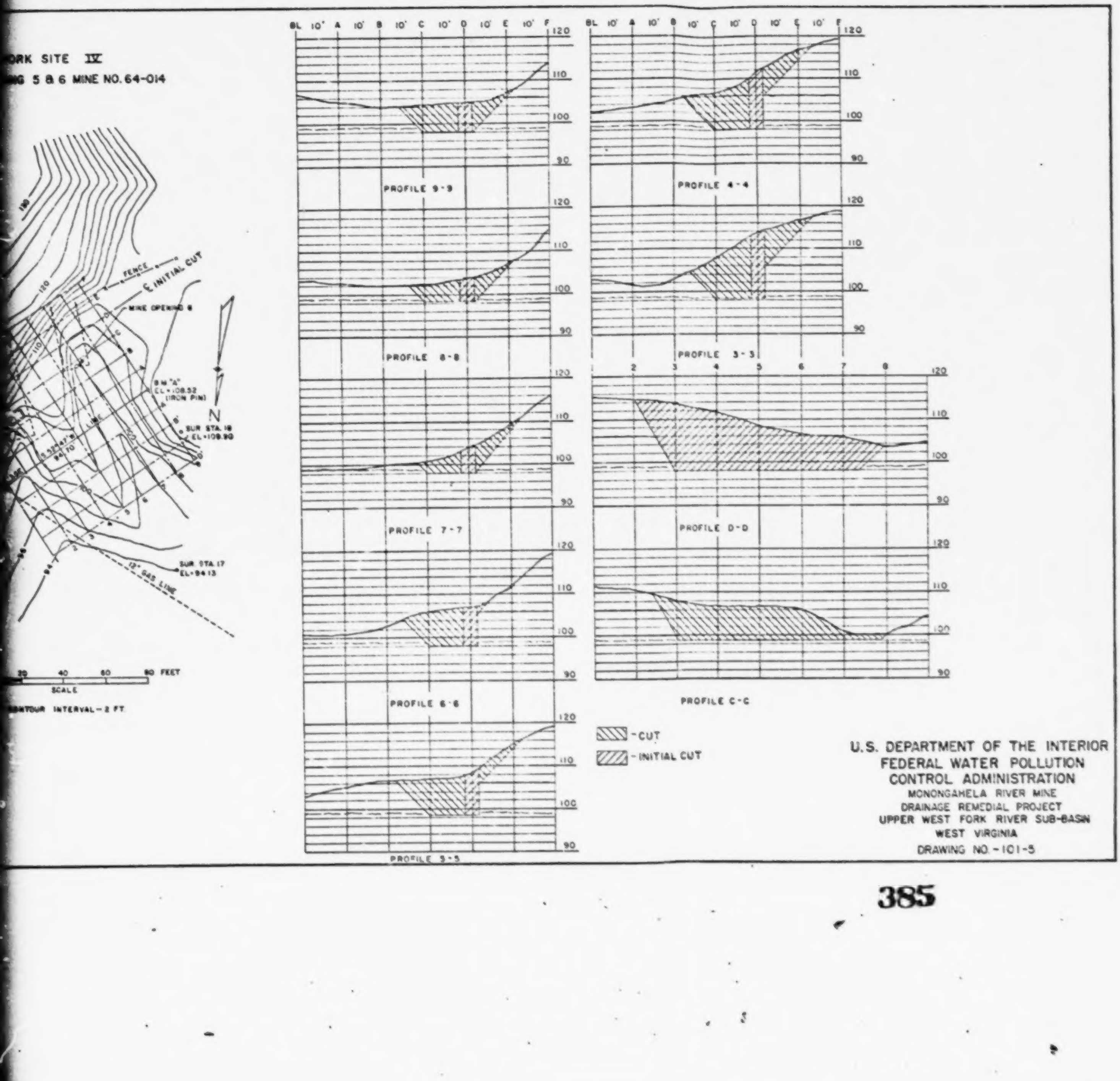
U.S. DEPARTMENT OF TH
FEDERAL WATER PO
CONTROL ADMINIST
MONONGAHELA RIVER
DRAINAGE REMEDIAL PR
UPPER WEST FORK RIVER
WEST VIRGINIA
DRAWING NO. - 101-



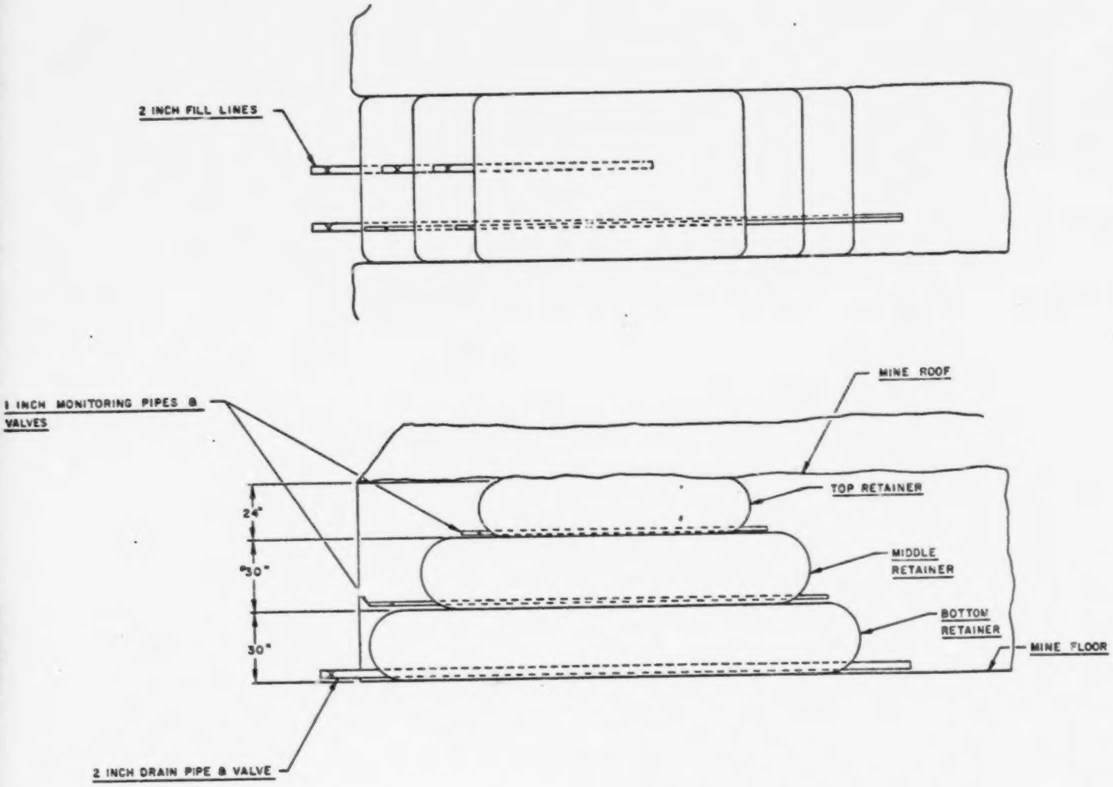
ITE III
- MINE NO. 64-017
102
116
118
E
5
C
B
BASE LINE
S 40 W
PT 23
B M "A"
EL-111.02
(IRON PIN)
10
A'
6
7
8
9
INITIAL CUT
110
100
COAL CONTOUR
EL-102±
0.5%
DIP
40
80
80 FEET
SCALE
TOUR INTERVAL — 2 FT
1
10'
2
3
4
5
6
7
8
9
10
120
110
100
90
PROFILE A'-A'
PROFILE BASE LINE
PROFILE A-A
PROFILE B-B
PROFILE C-C
PROFILE D-D
PROFILE E-E
PROFILE F-F
A'
BL
A
B
C
D
E
F
PROFILE 5-5
PROFILE 6-6
▧ -CUT
▨ -INITIAL CUT

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-4

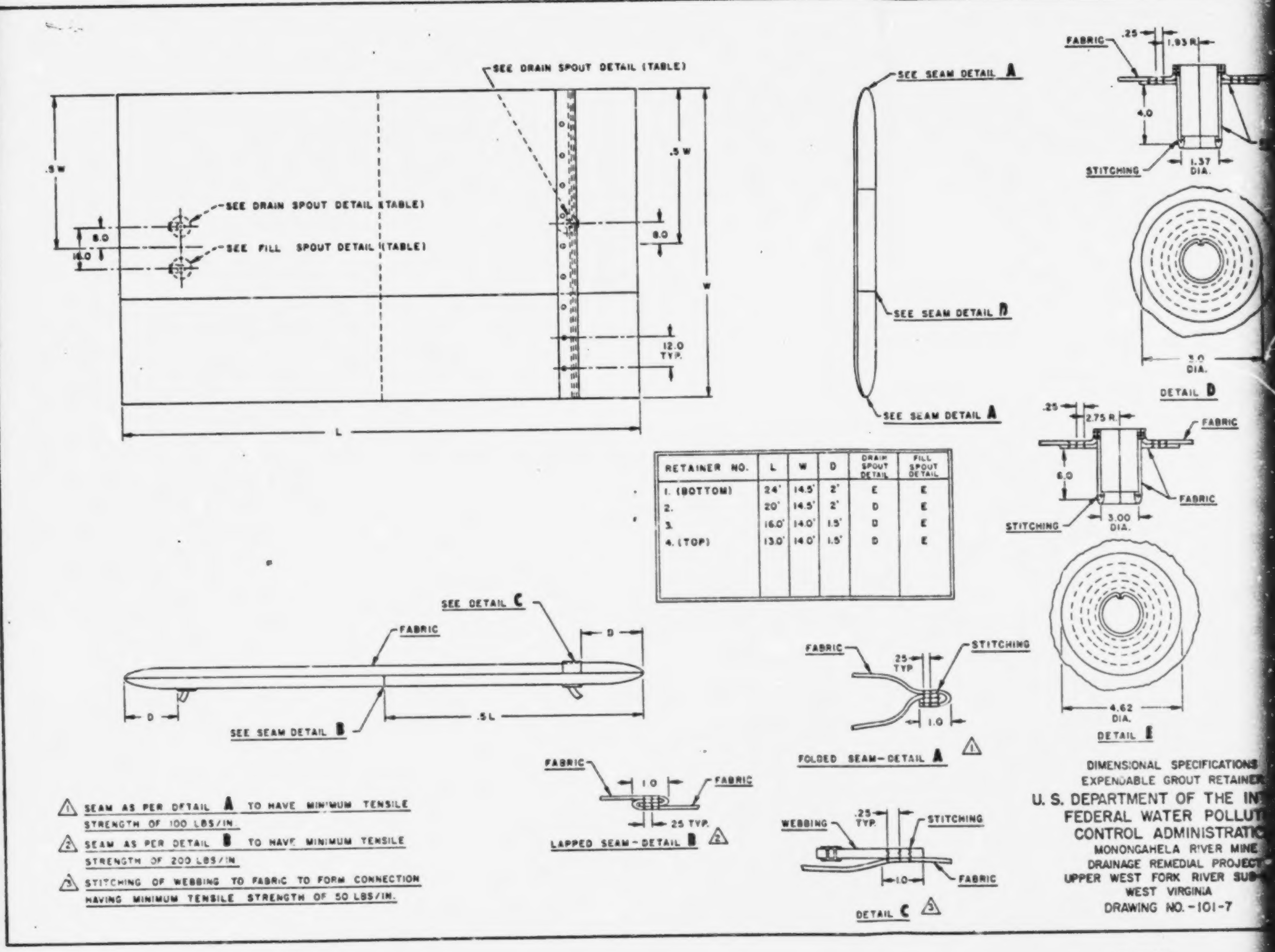

WORK SITE IV
MINE OPENING 5 & 6 MINE NO. 64-014
130
120
110
100
98
96
94
FENCE
℄ INITIAL CUT
MINE OPENING 6
MINE OPENING 5
B.M. "A"
EL.=108.52
(IRON PIN)
N
SUR. STA. 18
EL.=109.90
S 52°47' W
94.70'
BASE LINE
B.M. "B"
EL.=102.42
(IRON PIN)
SUR. STA. 17
EL.=94.13
12" GAS LINE
COAL CONTOUR
EL.=106 ±
0.5%
DIP
0
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL – 2 FT
BL
10'
A
B
C
D
E
F
120
110
100
90
PROFILE 9-9
PROFILE 8-8
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
1
2
3
4
5
6
7
8
PROFILE D-D
PROFILE C-C
▧ - CUT
▨ - INITIAL CUT
U.S. DEPARTMENT OF THE IN
FEDERAL WATER POLLU
CONTROL ADMINISTRAT
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJEC
UPPER WEST FORK RIVER SUB
WEST VIRGINIA
DRAWING NO. - 101-5


ORK SITE IV
NG 5 & 6 MINE NO. 64-014
130
120
110
100
96
94
FENCE
℄ INITIAL CUT
MINE OPENING 6
B.M. "A"
EL - 108.52
(IRON PIN)
N
SUR. STA. 18
EL - 109.90
S 52°47' W
94.70
LINE
SUR. STA. 17
EL - 94.13
12" GAS LINE
20
40
60
80 FEET
SCALE
CONTOUR INTERVAL - 2 FT.
BL
10'
A
B
C
D
E
F
120
110
100
90
PROFILE 9-9
PROFILE 8-8
PROFILE 7-7
PROFILE 6-6
PROFILE 5-5
PROFILE 4-4
PROFILE 3-3
PROFILE D-D
PROFILE C-C
1
2
3
4
5
6
7
8
▧ - CUT
▨ - INITIAL CUT

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-5


2 INCH FILL LINES
1 INCH MONITORING PIPES & VALVES
MINE ROOF
TOP RETAINER
24"
MIDDLE RETAINER
30"
BOTTOM RETAINER
30"
MINE FLOOR
2 INCH DRAIN PIPE & VALVE

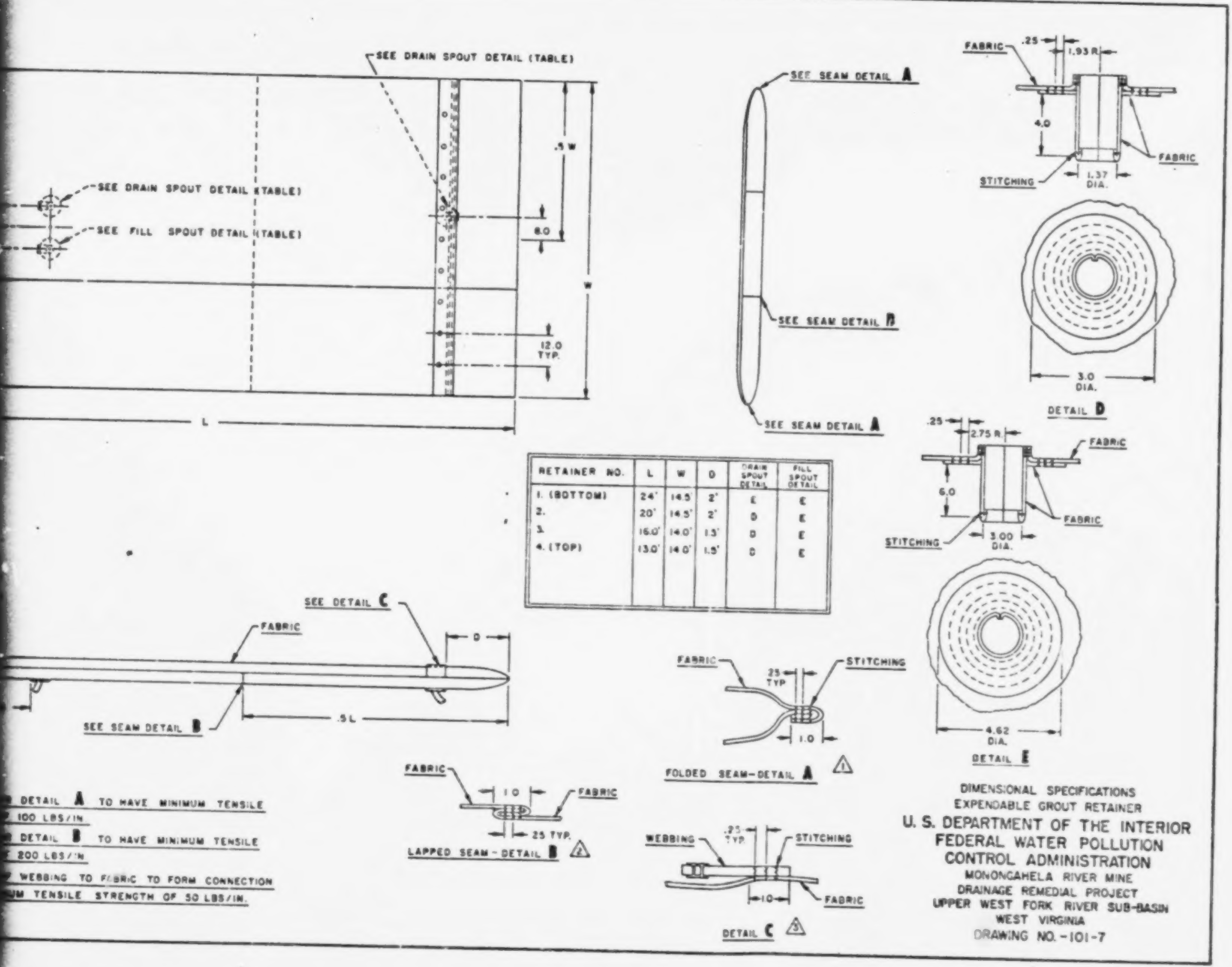
MINE PLUG-TYPICAL
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO.-101-6


SEE DRAIN SPOUT DETAIL (TABLE)
.5 W
SEE DRAIN SPOUT DETAIL (TABLE)
SEE FILL SPOUT DETAIL (TABLE)
8.0
16.0
.5 W
8.0
W
12.0 TYP.
L
SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A
FABRIC
.25
1.93 R.
4.0
STITCHING
1.37 DIA.
3.0 DIA.
DETAIL D
.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00 DIA.
4.62 DIA.
DETAIL E
SEE DETAIL C
FABRIC
D
D
.5L
SEE SEAM DETAIL B
FABRIC
25 TYP
STITCHING
1.0
FOLDED SEAM-DETAIL A 1
FABRIC
1.0
FABRIC
.25 TYP.
LAPPED SEAM-DETAIL B 2
WEBBING
.25 TYP.
STITCHING
1.0
FABRIC
DETAIL C 3

RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E

1. SEAM AS PER DETAIL A TO HAVE MINIMUM TENSILE STRENGTH OF 100 LBS/IN.
2. SEAM AS PER DETAIL B TO HAVE MINIMUM TENSILE STRENGTH OF 200 LBS/IN.
3. STITCHING OF WEBBING TO FABRIC TO FORM CONNECTION HAVING MINIMUM TENSILE STRENGTH OF 50 LBS/IN.

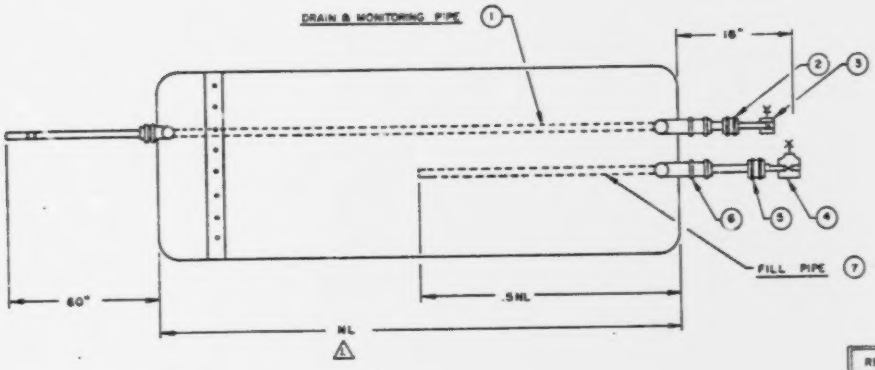
DIMENSIONAL SPECIFICATIONS
EXPENDABLE GROUT RETAINER
U. S. DEPARTMENT OF THE IN
FEDERAL WATER POLLUT
CONTROL ADMINISTRATIO
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB
WEST VIRGINIA
DRAWING NO. -101-7

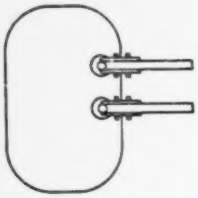

SEE DRAIN SPOUT DETAIL (TABLE)
SEE DRAIN SPOUT DETAIL (TABLE)
SEE FILL SPOUT DETAIL (TABLE)
.5 W
8.0
W
12.0 TYP.
L
SEE SEAM DETAIL A
SEE SEAM DETAIL B
SEE SEAM DETAIL A
FABRIC
.25
1.93 R.
4.0
FABRIC
STITCHING
1.37 DIA.
3.0 DIA.
DETAIL D
.25
2.75 R.
FABRIC
6.0
FABRIC
STITCHING
3.00 DIA.
4.62 DIA.
DETAIL E
SEE DETAIL C
FABRIC
D
SEE SEAM DETAIL B
.5 L
FABRIC
.25 TYP
STITCHING
1.0
FOLDED SEAM–DETAIL A ⚠1
FABRIC
1.0
FABRIC
.25 TYP.
LAPPED SEAM–DETAIL B ⚠2
WEBBING
.25 TYP
STITCHING
1.0
FABRIC
DETAIL C ⚠3

RETAINER NO.	L	W	D	DRAIN SPOUT DETAIL	FILL SPOUT DETAIL
1. (BOTTOM)	24'	14.5'	2'	E	E
2.	20'	14.5'	2'	D	E
3.	16.0'	14.0'	1.5'	D	E
4. (TOP)	13.0'	14.0'	1.5'	D	E

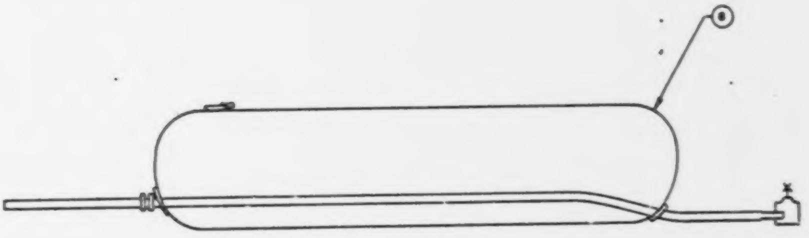
DETAIL A TO HAVE MINIMUM TENSILE
100 LBS/IN
DETAIL B TO HAVE MINIMUM TENSILE
200 LBS/IN
WEBBING TO FABRIC TO FORM CONNECTION
UM TENSILE STRENGTH OF 50 LBS/IN.

DIMENSIONAL SPECIFICATIONS
EXPENDABLE GROUT RETAINER
U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BASIN
WEST VIRGINIA
DRAWING NO. - 101-7





RETAINER NO.	L	NL
1. (BOTTOM)	24	20
2.	20	16
3.	16	13
4. (TOP)	13	10



LOC.	NO REQ'D.	MATERIAL REQUIRED
1	1	MONITORING & DRAIN PIPE
2	2	ADAPTER
3	1	MONITORING AND/OR DRAIN VALVE
4	1	FILL VALVE
5	4	ADAPTER CLAMPS
6	6	RETAINER CONNECTOR CLAMPS
7	1	FILL PIPE
8	1	RETAINER

△1 NL = NOMINAL LENGTH OF RETAINER AFTER FILLING

ASSEMBLY
EXPENDABLE GROUT RETAINER
U.S. DEPARTMENT OF THE INTER
FEDERAL WATER POLLUTION
CONTROL ADMINISTRATION
MONONGAHELA RIVER MINE
DRAINAGE REMEDIAL PROJECT
UPPER WEST FORK RIVER SUB-BAS
WEST VIRGINIA
DRAWING NO.-101-8